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PLANNING AUTHORITIES IN THE COUNTRIES OF ASIA SHOULD PLAN TO USE THE WIDE, INSTANTANEOUS RANGE AND INTIMATE APPEAL OF BROADCASTING TO LIFT THE LOW LEVELS OF HEALTH, EDUCATION, PRODUCTIVITY, INCOME, MOTIVATION, AND NATIONAL INVOLVEMENT OF THEIR PEOPLE. IN PLANNING FOR ITS USE IN FORMAL EDUCATION, THEY SHOULD ANTICIPATE NEEDS IN SCHOOL-BUILDING DESIGN, TEACHER EDUCATION, AND UNIVERSITY-TYPE BROADCASTS. IN PLANNING FOR INFORMAL EDUCATION AND PROGRAMS OF NATIONAL DEVELOPMENT, LISTENING CLUBS AND TELECLUBS SHOULD BE PLANNED FOR AND RECEIVERS MADE AVAILABLE. PROVISION SHOULD ALSO BE MADE FOR TRAINING IN EDUCATIONAL BROADCASTING AND FOR INTERNATIONAL EXCHANGE OF PROGRAMS. THIS DOCUMENT IS AVAILABLE AS B.2266 FROM NATIONAL DISTRIBUTORS OF UNESCO PUBLICATIONS OR FROM THE DIVISION OF FREE FLOW OF INFORMATION, UNESCO, PLACE DE FONTENOY, PARIS-7E, FRANCE, FOR $1.00. (MF)

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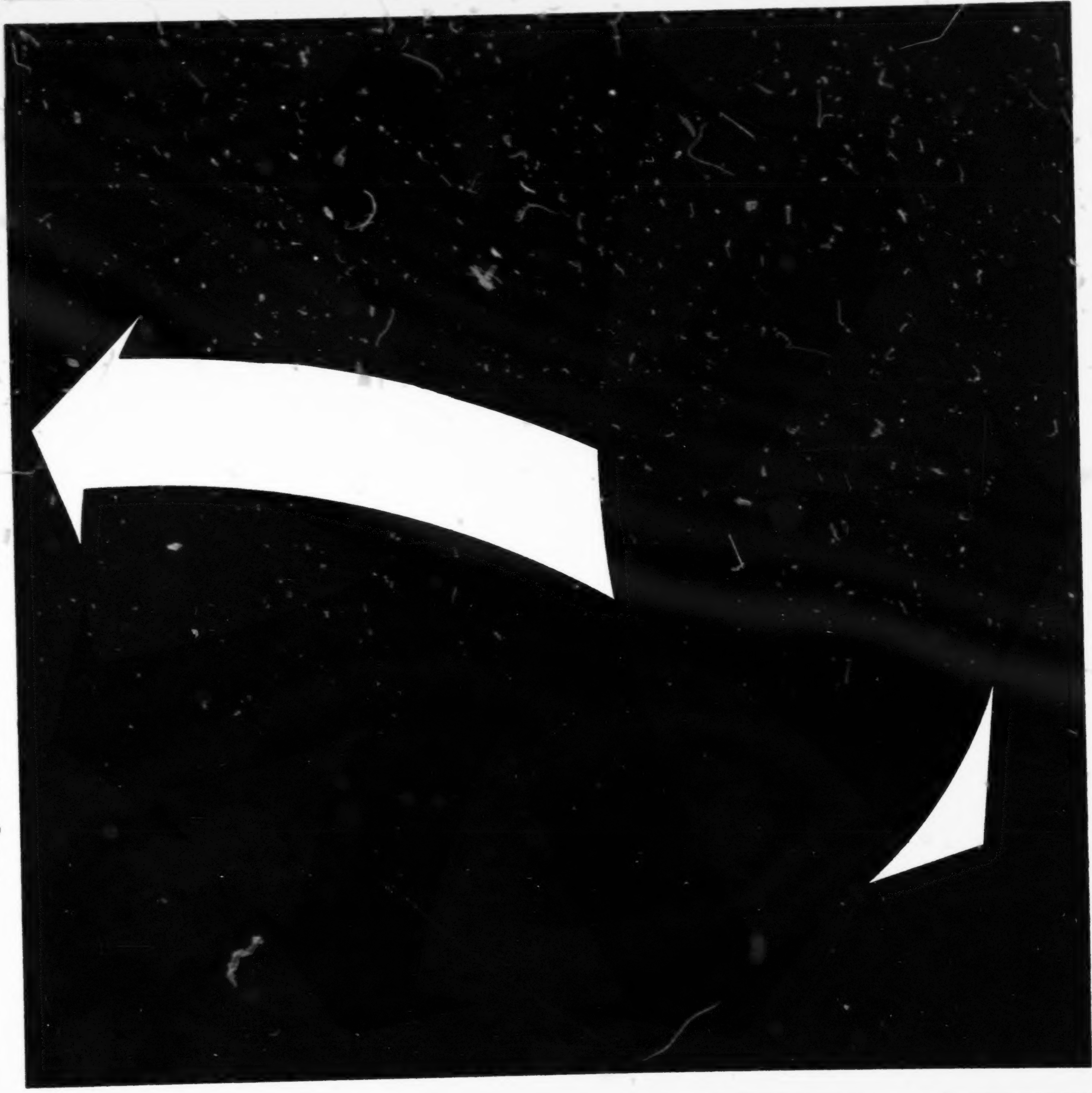

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Radio and television in the service of education and development in Asia

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PREFACE

This issue of the Reports and Papers on Mass Communication is devoted to the place of broadcasting in society, with special reference to the contribution of broadcasting to social and economic development in Asia. The paper deals with the work of the Meeting on Radio and Television in the Service of Education and Development, convened by Unesco at Bangkok, Thailand, 16-23 May 1966. It reproduces the Conclusions and Recommendations of that Meeting, as well as the two working paper prepared for it which cover the subject in greater depth. The text of the two working papers was amended and approved by the Meeting itself.

The subject covered is of concern to all countries which seek to integrate the resources of radio and television into the planning and operation of development and education programmes, and is therefore expected to be of interest beyond the region which examined these issues with particular reference to its own problems.

The Bangkok Meeting was organized under the responsibility of the Department of Mass Communication, but conducted in close co-operation with the Department of Education. Care was taken to invite to the meeting not only personalities responsible for broadcasting but also outstanding educators from Asia. The recommendations are thus the outcome of a frank and fruitful dialogue and reflect the views of both partners in the process of applying radio and television broadcasting to education.

THE CONTRIBUTION OF RADIO AND TELEVISION TO EDUCATION AND DEVELOPMENT IN ASIA*

FOREWORD

The purpose of the meeting convened at Bangkok was to provide for those who are responsible for broadcasting, education and development in Asia, an opportunity to take a "new look" at the contribution which radio and television can make to the important tasks facing them in their countries. The present document presents and analyses conditions and experiences throughout the world with respect to the application of broadcasting to education and national development, and raises issues for examination by the meeting.

The aim has been to indicate certain trends and to open up a number of avenues for thought and action. The document does not pretend to be a handbook and does not propose any final solutions or propound any one doctrine. Neither does it cover the technical aspects of broadcasting, which are primarily the responsibility of the International Telecommunication Union, nor attempt a factual survey of the present application of broadcasting to education and development in Asian countries, which is the subject of the second working document prepared on the basis of a survey undertaken in Member States.

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*This is the principal working paper distributed in advance of the meeting.

I. THE SITUATION IN ASIA

BROADCASTING

In the countries of Asia, radio and television broadcasting has reached many different levels of development and shows numerous variations in organizational structure and programme content. In some countries, radio broadcasting is still in its beginning and hardly reaches the outlying rural areas. In others, not only radio but also television are firmly established. Twelve Asian Member States, however, are well below the accepted minimum of 5 radio receivers for every hundred people, and of the twelve Member States that have introduced television, only one country is well above the "Unesco minimum" of 2 sets for every hundred people. Japan has reached the impressive figures of 20 radio sets and 18 television sets for every hundred people.

As to the structure of broadcasting, we find all types of organization and financing represented in Asia. Many countries operate radio stations as part of government departments. Yet in Japan and the Philippines, numerous radio stations are controlled by private enterprise and non-governmental organizations. In television, the higher cost and impact of the medium has led to an even greater range of variations, from governmental services as in Malaysia and India, to a public corporation operating television in competition with commercial enterprise, as in Japan. In Thailand, television stations are operated by government departments along strictly commercial lines, while in countries like Iran and the Philippines, television is primarily a field for private enterprise.

With regard to programming, the primary purpose of broadcasting stations everywhere appears to be to attract the largest possible audience through the dissemination of information and entertainment. Such programming unquestionably contributes to broadening the horizon of the audience, acquainting it with national and international events and familiarizing it with cultural life and technological progress. But the deliberate, systematic use of radio and television broadcasting for educational purposes is relatively scarce. In Japan, separate broadcast channels are devoted to education and many additional educational programmes are disseminated over networks serving the public at large. Many radio stations on the continent of Asia disseminate regular programmes of agricultural information to rural audiences. The experimental television station in India is devoted entirely to educational purposes and television in Malaysia carries some 5 hours of broadly educational programmes a week, devoted particularly to secondary school education and to the social education of adults.

Reports gathered for and at the meeting will no doubt bring forth further information on specific educational uses which are made of the broadcast medium. Yet it would appear that in none of the Asian countries are the majority of programme hours aimed at promoting social and economic development and the expansion and improvement of the educational system.

These manifold forms and uses of radio and television broadcasting in Asia must be seen against the pressing economic and educational needs which these countries are facing.

THE NEEDS OF EDUCATION

Generalizations covering the educational and economic situation of a region as vast and diversified as Asia are exceedingly difficult, and the present section attempts no more than a summary statement of certain salient features.

Density of population varies over a wide range in Asia, but the average is higher than in any other continent. Although demographic data show serious gaps for many countries of the region, it is likely that some of the highest birth-rates in the world are to be found in Asia, and the general picture is one of accelerating population growth resulting from large reductions in mortality while birth-rates remain high. This is directly reflected in the age structure of the population, some 40% of which is under 15 years of age, as compared with corresponding figures of approximately 32% and 26% in North

America and Europe respectively. Two of the consequences of this situation are of direct interest to the present meeting: the size of the economically active population is small in relation to the total population, thus making economic development more complex and difficult, and at the same time the education systems of the region carry a heavy load, given the fact that the school-age population (6-21 years) is some 35% of the total.

The developing countries of Asia have all adopted a policy of rapid economic growth, in particular through industrial development, and while there are wide national differences, the economies of the region have since the fifties shown an average annual growth rate of some 4%, or nearly four times as fast as in the first half of the century. The magnitude of this change is the more impressive when seen against the weight of the agricultural sector, which is so great in most of these economies that its slow growth tends to depress overall national growth rates, and also against the falling world prices for primary products, which in turn severely limit the possibility of importing capital and other goods required for development.

The social situation shows the same significant but uneven progress, with considerable differences not only between countries but also within individual countries, where there are indications that certain important and long-standing socio-economic inequalities may have widened in spite of the progress noted above. It is beyond the scope of this paper to embark on a detailed analysis of these or of the wider question of social constraints on development to which they point. In general terms, however, it may be urged that one of the major tasks facing countries in the region is that of revitalizing and restructuring the human and social framework within which the development effort takes place.

This brings us immediately to the rôle and present situation of Asian education, as a major factor in social and economic change in the area. Primary, secondary and tertiary enrolments are now roughly at the level of those in Western Europe at the beginning of this century. To take another comparison, in 1962 the estimated number of students enrolled in Asia as a proportion of total population was 12%, whereas in 1955 (the nearest year for which such data are available), the equivalent figures for North America, Europe and the USSR were already 23%, 15% and 16% respectively. Over the last ten years enrolments have grown at all levels in the region, with a number of spectacular increases at primary level and a perceptible beginning of a shift of effort towards secondary and higher education, although it is at these latter levels that the difference between the developing countries of Asia and the developing countries of other regions remains the most significant (secondary enrolments as percentages of total population in the developed countries elsewhere are 3 to 4 times higher than in the region, tertiary enrolments 5 to 9 times higher).

Within these global figures, a number of problems may be noted. Throughout the region, the distribution of educational facilities and opportunities is markedly irregular, not only between but also within countries. The urban-rural imbalance in education works heavily in favour of the cities and towns, and a negative attitude towards the education of girls and women is still prevalent in some countries. The presence of poverty and attendant poor health and nutrition, inability to buy school clothing and supplies, child labour and family disorganization accelerated by internal urban emigration all combine to exclude large groups of the eligible population from school attendance.

The preceding paragraphs on education deal with enrolment and the distribution of educational facilities. Important though these considerations are, they should not obscure one of the central problems for Asian education, that of wastage. It has been estimated that for the region as a whole, of 100 children who enter grade I only 40 reach grade V, and at secondary level, only 50% to 55% of those studying in the terminal grade graduate successfully. Solution of the problem depends on a number of factors, including training of teachers (and teacher-educators), curriculum development, texts and materials (including audio-visual aids), promotion and examination policy, educational research, buildings and equipment. To take the problem of teacher training alone, the school-level teaching force is estimated to have increased over the last decade at a rate significantly lower than the rate of increase of enrolments. Further, figures available for 9 countries of the region (countries which however account for some 75% of school enrolments therein) show that around 1961-1962 an average of some 30% of the primary teachers and 23% of the secondary teachers had received no professional training. An even higher percentage had received only partial training. In both cases the porportion was highest in rural areas.

The foregoing deals with formal education as at present established in the region. To this should be added all those educational activities which may be loosely characterized as education out of school, including adult and youth education, and education for literacy, and which are themselves other aspects of that integrated educational process which has been summarized in the phrase "continuing education". Here significant statistical data are largely lacking, although the magnitude of the problem is apparent (estimated unenrolled children, youth out of school and adult population, age-group 6-50 in 1962: 513 million), as well as its significance for the overall social and economic development of the region. Among the immediate tasks in this respect are those which stem from the high numbers of illiterates at present, the additional illiterates who are to be expected from among those young people who may not have access to formal education over the next two decades or more (or who leave school prematurely), and the young people who leave school inadequately prepared for life and work (or those, together with adults, who need retraining or upgrading). To these more immediately vocational concerns should be added the task of cultural preservation and social adaptation through continuing education, including inter alia the creation of a climate favourable to social change and capable of softening its harsher incidences. Over the whole range, because of the magnitude of the problem, a selective strategy is required initially, aimed at identifying those sectors of the population where personal and socio-economic motivation is strongest.

At the recent Conference of Ministers of Education and Ministers responsible for Economic Planning of Member States in Asia (Bangkok, 22-29 November 1965), the Ministers examined the quantitative educational targets established at the preceding meetings in Karachi and Tokyo, within the framework of overall social and economic development plans and possibilities. In addition, they singled out for close attention and for future action certain matters more closely affecting the quality and content of education, including the training of teaching and supervisory staff; research; adult, youth, family and literacy education; the education of girls and women; vocational and technical (including agricultural) education; and curriculum development, including science education. Considerable emphasis was also laid on research into and development of audio-visual techniques which because of their pedagogical efficacy and their possibilities of large-scale coverage were considered essential to a prompt, economical and effective solution of the quantitative and qualitative problems outlined in the course of this section. These considerations are of particular interest, and pose a most appropriate challenge, to the present meeting.

II. THE APPLICATION OF BROADCASTING TO EDUCATION AND DEVELOPMENT

There seems little question that radio and television broadcasting are capable of making a significant contribution to solving some of Asia's pressing problems. But such a contribution presupposes new approaches to the basic purposes of broadcasting, the development of the broadcast media themselves and consistent, expanded application of the media to educational objectives.

BROADCASTING, A PUBLIC RESPONSIBILITY

Broadcasting may be used for many sectional purposes. It may be the exclusive tool of the government or the party in power; it may serve primarily political and propaganda purposes; it may be a domain for private commercial enterprise; it may only provide entertainment; it may be exclusively an agency for information and education; it may be a power for centralization, or it may in turn be entirely local in scope and organization; it may primarily transmit programmes produced in other countries, or it may have a purely national or regional character.

None of these partial utilizations responds to the overall potential of broadcasting. Each utilization may be justifiable in its own right, but overriding them all is the right of the public to be served. Just as a system of roads in a given country cannot be limited to exclusive use by government vehicles or tourist traffic, to local communications or transcountry traffic, broadcasting should be available to meet the overall needs of the nation and its citizens.

Today, it is necessary to consider broadcasting as part of a country's so-called "infrastructure". While it is firmly accepted that harbours, roads, railways, waterways, electricity, post, telephone and telegraph services belong to this infrastructure, for which funds must be invested which do not necessarily yield immediate and clearly identifiable results, it is not generally recognized that broadcasting, and in particular educational broadcasting, belongs to the same category. Like schools, which are the subject of public policy and whose significance is not judged in terms of immediate profits, the establishment and use of broadcasting facilities represent a long-range investment expected to contribute to the promotion of the human and material resources of a nation. Like investment in education, these resources should be expected to yield results in the form of an informed, motivated and skilled public, and in the increasing availability of productive manpower.

Public concern and responsibility for broadcasting do not imply any particular form of ownership, management or control. They mean no more than that the organization and operation of broadcasting should be so designed as to meet the best interests of the citizens. In other words, that it should be a force for the change and evolution of society.

As we shall discuss more fully in subsequent chapters, such public concern may be applied to all types of broadcasting organizations; government owned, public corporations, private enterprises, or blends of any of these. Each structure brings with it the danger of broadcasting serving partisan or partial interests, and failing to be available for the manifold purposes it is able to fulfil. Each form of ownership or control may run counter to the public nature of broadcasting which is inherent in its very technological and social foundations.

The number of frequencies available for the transmission of radio and television broadcasts is limited. Only orderly control and assignment can avoid chaos and interference. Broadcast frequencies are therefore considered a basic national property which may be assigned to particular agencies for temporary use subject to considerations of national policy. The nation can never divest itself of its primary right to one of its essential and limited resources.

Broadcasting takes place in the public market and has a profound impact upon individuals and society as a whole. No public activity of this kind can escape public concern, for the essence of a stable society is the proper adjustment of its forces so that none will encroach excessively upon the public and private interests of its citizens. This notion is well recognized in many other fields. Commerce and industry, conditions of work and health, urbanization and the use of water, the education of children and even the moral behaviour of the individual are all subject to social controls in the public interest. It is difficult to see why broadcasting should escape this general rule which is applied to all societies, whatever their social structure, for the evident reason that without such controls society would break down into chaos.

Broadcasting has a profound impact on the economic life of the country. Not only is it an important industry in its own right, but its impact on the economy is inevitable and profound. It constitutes one of the nerve centres of a modern industrialized and commercialized society. It can stimulate and guide productive activities. Its use for commercial publicity has a direct impact on production and consumption, on import and foreign exchange.

Broadcasting is a powerful force in the political life of a nation. The constitution of a country, the working of its political machinery, the rights and duties of the citizen, are everywhere recognized as matters of supreme national significance. The rôle of broadcasting in political life and in the formation of a national and international society thus cannot escape the domain of public responsibility.

The educational significance of broadcasting is only one of the factors calling for public policy towards it. Education has long been recognized a public responsibility. Failure to apply broadcasting systematically to the needs of education and development means failure to meet this responsibility, recognized by governments and nations everywhere.

BROADCASTING AS AN INSTRUMENT OF EDUCATION

Education a life-long process from early childhood to mature age, is of direct concern not only to those attending institutions of formal instruction but to the population at large. The fact that broadcasting is a mass medium, the impact of which is not confined to particular social strata or geographic areas, makes it an especially valuable tool in the pursuit of this life-long education, which Unesco's Advisory Committee for the Advancement of Adult Education has defined as follows: "the animating principle of the whole process of education, regarded as continuing throughout an individual's life from his earliest childhood to the end of his days, and therefore calling for integrated organization. The necessary integration should be achieved both vertically through the duration of life, and horizontally to cover all the various aspects of life for individuals and societies".

What is needed is a completely new approach to the problem of education. This need was stressed by the Director-General of Unesco when he addressed the Conference of Ministers of Education and Ministers responsible for Economic Planning of Unesco's Member States in Asia (Bangkok, November 1965): "The ever-changing conditions of our present civilization, as well as the unceasing expansion and renewal of human knowledge, make it mandatory for every man and woman constantly to bring up to date whatever he or she learnt earlier in life. Education therefore becomes less concerned with the teaching of a static content which would equip for life once and for all, than with teaching how to learn - and to learn continuously. Education is also a continuing process in this sense that, being at every point capable of being supplemented by further knowledge, it must be integrated, vertically so to speak, through its various levels. The barriers between formal school education and other kinds of education break down in this new approach; the educational process appears as a continuum, from literacy to higher education."

In this educational process, radio and television broadcasting have today a privileged, though of course not isolated or self-sufficient, importance in developing countries. Frequently they are the principal or only channel to reach the rural areas and illiterate parts of the population regularly.

While each medium has its own specific characteristics, assets and limitations, they share certain common and peculiar features which place them in a particularly favourable position to make a contribution to society:

They are independent of traditional ground communications and can reach any place anywhere (particularly once space communications are being used), unhampered by mountains, swamps and deserts.

Everyone can receive their message - literates and illiterates alike - which makes their appeal universal.

Their instantaneousness and flexibility of production enable them to adapt themselves more than any other medium to changing ideas and conditions.

They address themselves to the entire personality of the listener or viewer, as their programming can range widely over information, education and entertainment.

They have both emotional and intellectual appeal and can thus be powerful agents of motivation as well as of information.

They can be received both by individuals and by groups, thus penetrating into the intimacy of the home or acting as agents for group formation and community action.

Radio is relatively cheap in production and reception, and the latter is independent of the availability of electricity.

Television, while more expensive, makes up for it through the more profound impact, thanks to the completeness of its audio-visual presentation, and its greater suitability for group reception to be followed by group discussion and action.

Radio, and especially television, are the most "personal" of all mass media of communication, as they establish an almost intimate relationship between the speaker and the distant listener or viewer.

Their wide instantaneous range makes them effective agents of national and international co-operation and understanding.

Inevitably, these important assets are accompanied by certain deficiencies. The broadcast media lack the spontaneous interaction of teacher and student; they lack the permanency of the printed work; they tend towards centralization and do not adapt themselves easily to local conditions and preoccupations; they require a technical infrastructure and suitable maintenance. These and other limitations underline the importance of combining their use with other media of communication, and underpinning them with an organizational and maintenance structure.

1. School education

In primary and secondary school education, broadcast media may fulfil four distinct though closely interrelated functions:

(a) They may enrich the classroom lesson given by the teacher, provide illustrations, introduce new material not available in textbooks, and link the school closer with the outside world. This has been the first and by now almost traditional use of school broadcasting, based on the assumption that schools are adequately staffed with qualified teachers but that the learning process might well benefit from programmes which infuse interest and vitality. It is also practised in a number of Asian countries, but there seems to be a growing feeling that such use of broadcasting is a relatively expensive luxury and does not contribute sufficiently forcefully to fulfilling the pressing needs of the educational system.

(b) Broadcasting may provide direct instruction, particularly in subjects where the school-teacher may be expected to have inadequate qualifications or where educational materials are either lacking or outdated. Significant fields in which this approach is now being applied to an ever greater degree - for instance, in countries as far apart in economic and educational development as India and Japan - are the teaching of the natural sciences, of mathematics, of geography and of modern languages. Such programmes, of course, also enhance the interest and visual perception of the students, provide instruction where none might have been available before and are also an efficient way of training teachers in service who view the programmes with their class. The rôle of the teacher is vital with regard to both the enrichment and the instructional programmes. It is his function to prepare and follow up the programmes in the classroom and to apply his pedagogical skills so that the information provided by broadcasting is assimilated by the individual student.

(c) The in-service training of teachers may be served not only in this indirect way but may also be one of the main purposes of broadcast programmes - coupled perhaps with such techniques as correspondence teaching and programmed instruction. Such use which is already practised in some Asian countries serves the long-term improvement of education. Most countries of Asia suffer from the inadequate qualifications of teachers in service and require means to guide and instruct these teachers, however remote their schools may be from urban centres.

In addition, it is evident that many teachers, particularly in primary schools and rural areas, suffer from their isolation and are longing for opportunities not only to advance their knowledge and skills but to maintain continuous communication with educators elsewhere. The use of radio and television to provide such in-service training and to be a forum for the discussion of issues close to the work and life of the teacher is hardly practised in Asia, or even in most other parts of the world. Nevertheless, it may prove in the long run to be perhaps the most effective educational use of broadcasting, for while a programme broadcast to schoolchildren will have to be repeated year after year for the same grade, programmes for teachers have a multiplying, long-range and lasting effect. Broadcasting organizations may be reluctant to schedule programmes for what would appear to be a relatively small number of listeners or viewers, but the mass impact of such programmes is likely to be much greater than broadcasts aimed at a far larger audience. Furthermore, such programmes for teachers may also be employed to guide them in the better use of other educational programmes.

(d) The use of broadcasting, and in particular of television with its more complete impact, to create schools literally "out of the air" should be considered as a fourth alternative. Points 1 to 3 imply that schools with teachers exist in the community and that broadcasting simply serves to improve instruction. In fact, however, many children have no opportunity at all to receive education because there are simply no schools.

The NHK Correspondence High School in Japan and Telescuola in Italy are significant new experiments in such conditions. It may well be envisaged that classes in Asian countries will gather around the television screen and that the bulk of instruction will be provided over the air. To assure pedagogical preparation, follow-up and supervision, literate monitors who do not have proper teaching qualifications may be sufficient. Such a system would have to be coupled with some elements of correspondence teaching and correction of written work at pedagogical centres.

It may be argued that a system such as this could not match the educational effectiveness of a fully-fledged school system, but on the other hand the education provided in this manner might go a long way towards closing the serious gap which exists today and which needs to be bridged as rapidly as possible.

Experience appears to indicate that the economical and effective use of radio, television and other audio-visual media in schools can only be accomplished if they are given real importance in the educational process and if the organization of education and the facilities available permit their use. In this connexion, countries are giving increasing attention to two issues:

(a) The construction of school buildings which are planned in advance for the use of the media and provide the kind of seating arrangement, electricity outlets, darkening devices, etc., which make it less costly to use the new media. Here is a field for wide investigation in both the developed and the developing countries.

(b) The revision of the types of problems posed in examinations so that the particular contributions of the new media can also be reflected in academic achievement. In India, for instance, it was noted that as long as examinations in English emphasized the written word, the particular asset of television in improving speaking and comprehension of the written word was of little use to the student who aimed at passing his degree. In other subjects where broadcasting can introduce up-to-date knowledge, similar problems have been encountered.

2. University education

The use of radio and television as closed-circuit systems within institutions is beyond the scope of this paper. What is of importance, however, is to make university teaching, particularly in the technological fields, as widely accessible as possible, not only to students within a campus, but also to others who cannot attend such courses because they live far away, or are at work, or simply because universities cannot accommodate more students. It is here that the establishment of university-type broadcasts, which disseminate instruction in one or more subjects to students - who can also be given opportunities for intermittent personal supervision - has particular importance. Current experiences with this type of university instruction in Japan, the U.S.A. and the USSR would seem to indicate that here lies a future for countries of Asia also. Unesco is currently co-operating with the Government of Poland in a nation-wide pilot project to study the use of television for providing the first two years of teaching in engineering and the establishment of a complete university of the air is under active consideration in the United Kingdom.

In addition to such systematic courses, universities play an important rôle in the dissemination of knowledge and culture to a broader audience, as for instance in the "University of the Air" broadcast by the Australian Broadcasting Commission.

3. Adult education

Practically all radio programmes have a certain educational significance, if only in the sense of conveying to isolated listeners in remote villages or lonely mountain stations a sense of participation. The feeling of being part of a whole makes for a better citizen; in fact, it seems to be the pre-condition for being a citizen in the politico-sociological sense of the word.

Broadcasting is also the main disseminator of news and information. For people living in dispersed areas, for illiterates, for the poor who could not afford to buy a newspaper even if they could read it, radio and - potentially - television broadcasts are very often the only means of learning what is happening in the world, including their own country. Information influences and shapes the opinion of people. The selection and presentation of news is, therefore, more than any other type of broadcast, a means of orienting and educating people.

Practically all general programmes, such as music, plays and other forms of entertainment have a potential educational significance inasmuch as they acquaint the listener or viewer with the culture of his time and age, though they may equally be debasing in their effect.

Yet it would be failing to use broadcasting as a precious national resource if no systematic, conscious effort were made to render adult education a component part of regular programming.

(a) Popularization of knowledge

Our era witnesses the breakdown of the monopoly of knowledge formerly held by certain social or intellectual classes, and even by certain countries. In the democratic process of providing access to knowledge and familiarity with the results of scientific investigation to the public at large and to entire nations hitherto kept in ignorance, radio and television play a crucial rôle.

We live in an age of science and technology. In order that we may understand the world in which we live, the popularization of scientific and technical knowledge is indispensable. Television offers many opportunities to report, demonstrate and explain scientific achievements and experiments, and to visualize even relatively complicated natural, physical and chemical phenomena.

Among scientific subjects which lend themselves to dissemination by radio, and in particular by television, we may, among others, retain the following:

accomplishments in the application of science to industry and agriculture;

the results of scientific research in biology, zoology and geology, which provide familiarity with the phenomena of plant, animal and mineral life, and enable people to cope better with tasks in rural conditions;

new approaches in mathematics, from simple arithmetic to modern concepts;

physics and chemistry, whose accomplishments are changing the very environment of man and providing him with new tools and materials.

In the Humanities, our knowledge and approaches are equally undergoing profound transformation, with which the general public must be acquainted so that it may keep abreast of the changing pace of society.

The political and social aspects of a developing country's own history are often less well known than European history and, in particular, the history of former colonial powers. But nothing seems to be more important for fostering a spirit of self-reliance and nationhood than a common awareness of the identity and continuity of a historical process. With archaeology, ethnology and anthropology expanding our knowledge of social conditions of the past and present, more and more programme material becomes available to confront adult audiences with new historical findings.

The geography of developing countries, of their neighbouring countries and of their continents, can be the subject of very attractive television programmes, particularly if these depict not only the physical features of the countries but also the people who live there. Documentary programmes on people and places are particularly potent educationally because they entertain while they educate. They are also most suitable for programme exchanges as they foster a spirit of mutual understanding and appreciation.

Human sciences, particulary sociology, philosophy, and the history of philosophical and political ideas, offer innumerable topics for broadcasts and are indispensable in creating a spirit of citizenship and social responsibility.

(b) Civic education

Familiarity with these advances in the Humanities is an essential foundation for civic education. Such education is vital in the process of forming national unity and a world society, and in enabling the people to participate actively and in an orderly manner in public affairs. Through its news reports, through documentaries and through the presence in front of the microphone or camera of leaders in public life, broadcasting engenders awareness and understanding of the political processes.

The presentation of the functioning of governmental institutions (parliament, government ministries and the judiciary system) and of public services (schools, postal and medical services, railroads), tends to remove primitive suspicions and to create confidence and a spirit of national or community pride, and involves the individual in public affairs, inducing him to take an active part in them.

Thanks to the vividness of its presentation, particularly on television, broadcasting can disseminate rapidly and to a vast public new approaches and practices in health and nutrition. Experiences of the teleclubs in India and the Unesco pilot project at Dakar, Senegal, in the use of television for the education of illiterates in new practices of health and nutrition, testify to the potential effectiveness of the medium in this field.

The education of women is the key to improving conditions of home life and practices in the raising of children as well as in very many other aspects. Here broadcasting, which is the only medium of communication to reach the intimacy of the home of a largely illiterate sector of the population, has an exceedingly important rôle to play. Programmes for women regularly received by groups frequently become trusted monitors who help wives and mothers to adapt themselves to the changes in society around them.

When raising public issues of social significance, from the water supply to the planning of cities, from the education of children to providing for the aged, broadcasting not only informs but stimulates social awareness and action.

Radio and television are popular among young people and unquestionably exercise considerable influence upon them, although the degree of their specific impact is a matter of controversy. There is no question but that on the one hand broadcast programmes may disseminate ideas and concepts which add to the problems of youth, separate the young from the culture of their parents, and produce harmful notions from a moral or civic point of view. On the other hand, these media have particular value in opening the eyes of youth to national and world affairs, and in assisting them to find their way both professionally and as citizens. How to develop the best programmes for youth while avoiding potentially harmful pitfalls is a major issue of concern to broadcasters, educators and parents alike.

(c) Language teaching

Programmes in adult education may not aim at teaching people how to speak, but they can well teach people how to speak with each other, i.e. teach them a common language. This is of particular importance in countries where large minorities do not speak the national language. Language courses on the radio have been conducted throughout the world with great success. It has been fully established that radio is a suitable tool for language teaching and language practice.

Television, because of its visual component which presents sample situations with greater realism and enables students to watch the lip movements of the instructor, is an even more effective medium of language instruction than radio.

Language instruction can well be combined with: literacy teaching; civic education; instruction in vocational skills; in other words, it may become "functional" language teaching.

4. Literacy

Radio and television can be of considerable value in the world-wide campaign to eradicate illiteracy.

The objectives of this campaign which aims first of all at functional literacy in selected regions of particular signficance to economic development, were established by the World Congress of Ministers of Education on the Eradication of Illiteracy, convened by Unesco in Teheran in September 1965. This concept of a selective strategy to achieve functional literacy underlies the first three experimental projects which are being launched with the assistance of the United Nations Development Programme in Algeria, Iran and Mali.

We may distinguish four distinct phases of this campaign: public motivation, encouragement of individual learners, instruction in literacy work, achievement of functional literacy and follow-up. Radio and television can make specific contributions to each of these phases:

Public motivation

Public motivation is a vital element in any literacy campaign. Literacy is of concern to the nation as a whole, literates and illiterates alike. A campaign can be successful only when all sections of society are convinced of its importance and are ready to make material and personal contributions. Only when the consciousness of the nation is aroused can the campaign hope to succeed. Public motivation, therefore, is of importance for the literates, who can help in the campaign, and for the illiterates, who should benefit from it. Radio and television, which reach the entire population day after day, are among the primary tools to arouse the nation to the importance of the literacy campaign.

Encouragement of individual learners

Beyond general motivation, individual learners must be encouraged to enlist in literacy classes and to persist in their attendance. Here, radio and television can be particularly useful as media around which listening or viewing groups are constituted. Experience shows that such groups, which at first may come together primarily to discuss broadcast programmes and envisage follow-up action on the community level, soon express the desire to receive literacy instruction also, and that the regularity and interest of broadcast reception helps to counteract the wide tendency for massive drop-out of learners.

Instruction in literacy work

While experience in the use of radio for direct instruction in the skills of literacy is inconclusive, the more complete medium of television shows every promise of becoming an important tool for the teaching of reading and writing.

Achievement of functional literacy and follow-up

The many potential contributions of radio and television to social education and vocational orientation and training, indicated elsewhere in this paper, demonstrate the value of the broadcast media in all efforts aimed at obtaining functional literacy.

In short, radio and television broadcasting, which appeal to the emotions and the reason of all men irrespective of their degree of literacy, are well suited to the education of illiterates and their adaptation to a society in rapid change. They create a climate of curiosity, of new attitudes of mind and new practices, which are favourable conditions for a successful literacy campaign.

Audio-visual methods and television used in literacy instruction relate it to the outlook and perception of the illiterate; they illustrate instruction in reading, writing and arithmetic so that the learner can make a transition from his previous visual concepts to the new symbolism of the written word or figure. Broadcasting is also an effective tool for the training and guidance of monitors, instructors or animators of a literacy campaign dispersed over a wide geographic area.

5. Training and guidance of educators

Not only teachers-in-service but also adult education leaders, group organizers, convenors, literacy monitors, social workers and others engaged in adult education, may receive training and guidance through broadcasting. As it is frequently difficult to gather such personnel for seminars and training courses, particularly when they are dispersed over a wide area, their continuous training and guidance through broadcast media is of particular importance. Such guidance may also aim at improving the use that is made of adult educational programmes.

IMPACT OF BROADCASTING ON DEVELOPMENT

In national development, broadcasting can serve as an important agent of social change and action. Broadcasting may be expected to help accomplish the transition to new customs and practices and, very often, to different social relationships. Behind changes in behaviour there always lie changes in attitudes, beliefs, skills and social norms.

To make a lasting contribution to development, broadcasting will thus seek to address itself to the listener or viewer not only as a producer or agent of economic activity but as a whole man; it will have to have both socio-psychological and immediately practical objectives.

To highlight the rôle of broadcasting in the promotion of social and economic development, we shall limit ourselves to a consideration of some of its principal aspects.

1. Rural development

In rural areas, both radio and television have clearly established themselves as powerful forces of transformation. Evidence of this is the long experience with rural radio forums in India, the impact of rural teleclubs in Japan and the growth of agricultural broadcasts in many other Asian countries. Programmes addressed to rural radio forums have proved effective because of their practical content, which stimulates the peasant to explore new practices in agriculture, health family relations and other fields of interest to his life. Their particular significance lies in the fact that these programmes are received and discussed in a group which may then decide upon community follow-up action, and that channels are provided so that the village can react back to the broadcasting stations and the ministries cooperating in the production of the programmes. In this way, the villagers can put questions or make comments based on their own experience and ideas and thus become an active partner in the introduction of new practices. Thus the centralized medium of broadcasting may be adapted to local conditions and the authorities are able to receive continuous reports on the practical effectiveness of the guidance they are providing at the village level.

Experience shows that peasants will adopt new and more efficient methods of production only when they are generally prepared to make changes in their traditional way of life. Moreover, their ability to produce is closely linked with their conditions of health, the status of women, the education of children and other aspects of community environment. By addressing themselves to the whole man, and by reaching simultaneously hundreds of villages over a widely dispersed area, rural radio broadcasts prove to be the most efficient form of education designed to increase production and to improve conditions. These broadcasts are not self-sufficient but require systematic organization of group listening and two-way communication; but once the system is at work, governments have at their disposal what is perhaps the most efficient tool for the transformation of rural society(1).

2. Industrialization

With regard to the introduction and development of industrialization, the impact of broadcasting is less direct. However, here too it may be of considerable value. In a general way, it may be stated that nation-wide broadcasting promotes national integration and thus the creation of a national market. As a nerve centre of society, broadcasting assists in the co-ordination of national economic activities and the promotion of a money economy. Broadcasting is both the result and the stimulator of modernization. It is part of an evolution towards a way of life which includes the much wider use of the products of industrialization.

Of more specific importance is the use of broadcasting for vocational orientation and education. Radio and television can provide widespread familiarity with vocational outlets for available manpower. By giving an insight into the activities of specialized workers, of trades and professions, these media provide orientation to the young and to people forced to change their occupation. They also provide an opportunity for planning authorities to direct manpower resources towards desired ends.

Radio is limited in vocational training itself, but it may be applied to this end in combination with correspondence teaching, organized group reception and local supervision. Television is already proving effective in this field. Various countries are giving courses in cattle breeding and the milking of cows, in the elements of electricity, in the handling of slide rules and the abacus: one might well envisage instruction in many other mechanical trades, from plumbing to welding. One of the principal obstacles to the introduction of modern facilities in developing countries is frequently the absence of craftsmen skilled in their installation and maintenance. The application of television to this field might thus have a far-reaching impact.

Finally, the existence of broadcasting is in itself an economic enterprise of considerable importance. Broadcasting organizations are usually large public or private enterprises which provide jobs for thousands of highly skilled people and which use, and therefore have to buy, sophisticated and expensive machinery. Broadcasting also calls for the creation of new industries, particularly in the production or assembly of receiver sets. Together with the sales and maintenance services which have to be set up, this industry is an important economic factor.

To sum up, broadcasting can make important contributions to development because:

it contributes to the modernization of production methods, particularly in agriculture where innovations depend upon the willingness of individual peasants to introduce them;

it increases the resources of productive manpower;

it promotes the establishment of new industrial and service organizations;

it may stimulate consumer demand and the transition from a barter to a money economy.

3. Economic considerations

The foregoing section has indicated that radio and television broadcasting can make a significant contribution to national development.

But what are the economic implications of using broadcasting for these purposes? What are the costs to society as a whole and to individual government departments? And what are the economic benefits which may be derived?

While it is not possible to give specific figures applicable to individual countries or conditions, certain general considerations may be of value to those responsible for calculating the economic implications of applying radio and television to educational and development purposes.

The total cost of establishing and operating a broadcasting organization with its production, transmission and administrative facilities, its personnel and operating costs need be imputed to education and development only if they are non-existent today and will be used exclusively for these purposes in the future. In actual practice this is not the normal situation because:

radio broadcasting exists in all countries of Asia;

television exists in some countries and is being introduced in others for commercial, political and entertainment purposes;

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(1) "Radio Broadcasting serves Rural Development", No. 48 of Reports and Papers on Mass Communication, Unesco.

application of radio and television to education and development implies in most cases, therefore, no more than an expansion of existing facilities (both production and transmission), and operating budgets for the production of specific programme series;

an expansion of educational programming might well be undertaken at the expense of other programme objectives, and thus not require a corresponding budgetary increase;

the principal expenditures on equipment for specifically educational purposes consist in the installation and maintenance of the necessary receivers.

Application of broadcasting to development implies above all that it is available in the very areas requiring its support; this may involve, for instance, extension of radio transmission signals to rural areas currently poorly served. Such extension will bring to these areas information and entertainment as well as educational programmes. In this, as in many other cases, the extent to which investment is to be attributed educational objectives will thus roughly depend upon the percentage of educational and development programmes carried by the broadcasting organization.

With regard to estimating the economic effectiveness of broadcasting, one may take three different approaches:

(a) The use of broadcasting may be compared with other more traditional methods in education and a comparative estimate made as to the relative cost of one method as against another. The advantage of this approach is that it compares broadcasting with a relatively known factor, namely the unit cost of traditional forms of education. The disadvantage is that such an approach does not allow sufficiently for those accomplishments of broadcasting which exceed, in either quantity or quality, those of other methods. In other words, broadcasting may frequently bring resources to the educational process which would not be available in any other form.

(b) The second approach, therefore, is primarily to estimate the additional contribution which broadcasting makes to an established educational system (both school and adult education). Examples are the value of in-service training given to teachers who do not receive such training at the present time; the instruction of children in subjects which are not adequately taught, or even the provision of schooling for children in places without regular schools; the provision of adult education for listeners or viewers who have no other opportunties to receive such education.

(c) A third approach is to estimate the impact of broadcasting on economic activity. This approach is of course only valid for programmes addressed to the productive and, therefore, adult section of the population. Here, however, it is possible to trace directly the link between the stimulus of broadcasting and follow-up action, especially when it is undertaken by listening or viewing groups.

Unfortunately, our knowledge to date is inadequate to provide precise estimates in any of these three categories, but research currently carried out by various international and national agencies should yield some results in the near future. In any case, it appears already that any analysis of the economic effectiveness of broadcasting should pay attention not only to the first but to all three of the approaches indicated above.

One further lesson has been drawn by specialists who have compared the experience of a number of countries in the use of radio and television for education; these media are relatively expensive if they are used on a small scale and merely supplement existing forms of school and adult education. Their unit cost drops sharply if full use is made of their principal asset, namely that they are mass media. There appears to be a "critical mass" in the use of these media as in the use of atomic energy. Only when this critical threshold has been passed and when the media are given key importance in the educational process, does their use prove to be clearly economical.

This implies that while small experimental projects are extremely important in order to gain experience and train personnel, the progress from there on should not be gradual but rather spectacular. Once the technique has been mastered it will have to be applied on a large scale, at least within a specific geographic area or special field, to make real impact and to prove worth while from the point of view of society.

Finally, any economic evaluation of broadcasting must take account of the fact that the existence of broadcasting in a country is in its own right an economic factor of considerable weight. The broadcasting industry requires sound economic planning, i.e. investment matched by results, expenditures matched by direct or indirect returns, and programme output matched by social benefits.

REGIONAL AND WORLD-WIDE CO-OPERATION

Broadcasting offers manifold opportunities to weave a tighter net of regional and world-wide co-operation and understanding. While the majority of radio and television stations serve exclusively national audiences, short- and long-wave transmissions reach far beyond national boundaries and the signals of all broadcasting stations are regularly received in border regions of neighbouring countries. In their domestic programming, broadcasting stations make a continuous effort, within their limited financial resources, to report events outside their national frontiers and to transmit programmes or films produced in other countries.

To promote co-operation, broadcasting organizations have joined together in regional associations. The recently formed Asian Broadcasting Union (ABU) follows on the establishment of the International Broadcasting Organization (OIRT), the European Broadcasting Union (EBU) and the African Broadcasting Union (URTNA). Prototypes of international materials for broadcasting come from the United Nations and from its Specialized Agencies, in particular Unesco.

Multilateral efforts to promote international co-operation in programming are most valuable and require continuous promotion. However, they should be accompanied by programme exchanges on a bilateral basis. Regional broadcasting organizations can encourage this practice by collecting information on programme material available and suitable for exchange, and by distributing it to their members. This has proved to be a more promising way of promoting international exchange than attempting to centralize programme exchange through the secretariat of regional broadcasting organizations. The latter procedure would involve the adaptation of exchange programmes to the specific requirements of individual broadcasting organizations and would place a very heavy and costly workload on the shoulders of the secretarial staff of these organizations. The promotion of a better understanding of other countries and the international sharing of educational materials have a direct bearing on the application of broadcasting to education and development.

By presenting a sound or visual document or reportage from another country, broadcast programmes familiarize the home audience with conditions elsewhere. Whether such reporting contributes to understanding would seem to depend essentially on the spirit in which it is presented.

The vast range of educational tasks for radio and television, the costliness and scarcity of materials, especially of visual materials suitable for television, and the universality of educational content in certain disciplines, create favourable conditions for international collaboration in this field. It is evident that education should be adapted to the mentality and conditions of those to whom it is addressed. International co-operation may, therefore, frequently take the form of providing elements of instruction (kits) suitable for local adaptation and integration into programmes, rather than of fully produced and completed courses.

Technically, such co-operation may range all the way from the provision of programme kits to the supply of films and video-tapes, and eventually to the dissemination of programmes or programme elements by transmission via communications satellites.

III. GUIDELINES FOR ACTION

STRUCTURE OF BROADCASTING ORGANIZATIONS

The structure of broadcasting organizations shows a multiplicity of patterns throughout the world. Certain basic forms have evolved for radio broadcasting but the advent of television, with its considerably higher cost and greater impact, has further complicated the picture. Basically, we may distinguish the following forms of organization and control:

Government ownership and operation - broadcasting is the direct responsibility of a government department.

Public Corporation - broadcasting is a public enterprise under the control of an independent corporation charged under a charter to operate in the public interest of the nation as a whole rather than of the government of the day.

Private enterprise - broadcasting is controlled by private interests and conducted for commercial profit, under varying degrees of government licence (frequencies mainly).

Another way of classifying organizations is according to their sources of revenue:

Government funds - allocation of funds by various ministries, provision of funds as part of the overall national budget.

Licence fees - provision of funds from licences paid directly to the broadcasting organization by owners of radio and television sets.

Commercial publicity - revenues from the broadcast of advertisements for commercial products.

With regard to the use of broadcasting for education and development, we may furthermore classify the various structures from the point of view of responsibility for educational programming:

Broadcasting organizations are fully in charge of such programming - the organization is responsible for the transmission, production and content of programmes, possibly in consultation with an advisory board of educators. Responsibility might even extend to the provision and maintenance of receivers, the supply of accompanying printed materials and the training of educators in the use of programmes. Some of the latter functions, however, may be the responsibility of educational and other administrations.

An educational administration has responsibility for content and production and, in some cases, even for transmission - in this case, all aspects of utilization and reception naturally lie also in the hands of administrations concerned with education.

In actual practice we find a blending and interpenetration of all these different approaches. A government broadcasting organization or a non-commercial public corporation may, for instance, transmit a certain amount of commercial publicity and derive revenue therefrom. A private commercial organization may devote part of its output to non-commercial public service broadcasts. An educational administration may prepare programmes but leave their production and transmission to a public or private broadcasting organization.

The structure of a broadcasting organization has profound political, social, educational and economic implications. The multiplicity of patterns is the result of national conditions, interests and resources. It would appear that there is no single pattern which could give the most satisfactory results in different countries.

The issue is, thus, how best the public interest, particularly the service to education and development, may be assured, whatever the particular national structure of radio and television broadcasting. It might be useful to draw up some general guidelines with a view to assuring that broadcasting fulfils the tasks arising from its public nature and responsibilities. This involves on the one hand recommendations concerning the integration of broadcasting into the planning and application of education and development and, on the other hand, the provision of suitable conditions for the economic viability and overall service to the nation of radio and television, without necessarily pronouncing on the basic structural principles.

TECHNICAL PERSPECTIVES

Technical developments in broadcasting's half-century of existence have been rapid and, in retrospect at least, often spectacular. Considering the impact of the vacuum tube, the superheterodyne receiver, the tape recorder and television, it would perhaps be rash to select one invention which has most affected the course of broadcasting's development. In the most contemporary terms, however, broadcasting is well advanced into the era of solid-state electronics and it is the transistor which clearly dominates current technical design.

For the broadcaster the transistor has a special significance: coupled with improved printed circuits it means a whole new range of compact, more reliable and more readily-maintained equipment. But it is on the reception end that the transistor revolution has made its greatest impact and where the ironies of underdevelopment have persistently blocked the possibilities of the transistor radio as a truly universal instrument.

Apart from variations upon the theme of complexity, there is, according to all evidence, little reason to expect that any significant change will appear in the transistor radio within the foreseeable future. Loudspeakers and power supplies remain the impediment to further practical miniaturization. Under these relatively stable conditions, however, a long-term commitment to receiver production is not likely to be overtaken by sudden obsolescence. At least one major objection to the establishment of a radio industry is, therefore, largely overcome.

Receiver production, organized on a significant scale, however, presents difficulties which also vary enormously among Asia's developing nations. Where the need is greatest, it is apparent that only a major effort on the part of the national government is likely to provide a solution. Foreign exchange controls, customs and tariff interventions, together with development priorities, are conditions imposed by governments. Only if and when these conditions are favourable will the age of the transistor really begin in much of Asia. But as receiver production is inhibited by all the conditions that characterize underdevelopment, and as receiver design is inescapably linked with transmission conditions, it is apparent that present technology offers no simple solution to the need for more and better broadcasting, particularly for education and development. Great care and detail has gone into the examination of these problems by the joint Unesco/ECAFE/ITU Survey Mission on the production and marketing of low-cost receivers in Asia.

Transmission difficulties, the report points out, are of both an international and a national nature. In some national situations there is a tendency for chaotic crowding of the medium wavebands in a few urban areas to the exclusion of any form of reliable rural service. Elsewhere the vast areas to be covered present the most formidable difficulty. In other words, the present coverage of Asian countries by broadcast transmission does not seem to provide an adequate infrastructure for the use of broadcasting for education and development. Frequently, the very areas where such use would seem most important are the most poorly served by radio and television transmissions.

Internationally, the report emphasizes, the trends towards a state of anarchy in the short-wave spectrum can only be averted by international agreement, under the aegis of the world-wide body, the International Telecommunication Union.

But while harassed radio engineers may look in despair upon propagation charts of chaotic congestion on the one hand or insurmountable gaps on the other, the forerunners of an entirely new epoch in broadcasting are to be found in the airless realms above the earth.

The relaying of broadcasts via communications satellites began less than nine years ago. In the opinion of the world's experts the next ten years will provide the knowledge and experience to make direct broadcasting from satellites an operating reality at an as yet unspecified date.

Until the day when a single transmitter in space can produce a signal directly available to home receivers, there is the more immediate assurance of a satellite application of special significance to Asia at an earlier stage.

Specifically, the distribution satellite may provide a better and much more economical alternative to extensive microwave, VHF or cable installations on the ground.

Whether in a high, synchronous orbit which makes its signal continuously available to an area which can include up to a third of the world's surface, or a lower elliptical orbit which offers economy and greater signal strength but shorter availability, the distribution satellite is designed to provide reception through a system of amplifying and distributing relay points. At least one national application of this type is already under development.

As long as only two or three nations have the capacity to build and launch communications satellites, the notion of their use by developing countries may seem more remote than justified. Where internal communications are already highly developed as in North America and much of Europe, the first and certainly most impressive application of satellites has been in transoceanic communications. There is good reason to believe, however, that the conceivably most important use of satellites for national and regional broadcasting could and should take place in a developing area. Large areas within the Asian region, such as the sub-continent embracing India and Pakistan, where the establishment of an adequate system of ground communications faces considerable obstacles but where there are urgent requirements for greater application of broadcast media, would seem to offer an excellent field for the employment of a distribution satellite for a multitude of purposes including radio and television broadcasting. Radio in particular may be the immediate practical application of the first Asian satellite, because it would offer good quality signals, with lower power and band width requirements, throughout an area where radio reception seems more immediately needed and feasible for teachnical and economic reasons.

The price of an "Early Bird" type of satellite, "parked" in a synchronous orbit was estimated in early 1966 at $10 million. The more elaborate distribution satellite may, as far as present knowledge indicates, cost more, although price estimates in this field are likely to be soon out of date. There are also the costs of ground installations which may well be higher than those of the satellite itself. Three factors, however, should tend to make the communications satellite an increasingly attractive possibility: the first is additional experience in building and launching; the second, the increasing number of countries with satellite capability; and the third, the feasibility of two or more countries using a single satellite on a shared basis.

At the Meeting of Experts on Space Communications, convened by Unesco in Paris, December 1965, several important recommendations were made regarding Unesco's future programme in this field. Not the least of these was the proposal that Unesco should study the feasibility of supporting a pilot project for the use of satellites in developing countries with large populations, particularly for the purpose of educational and cultural broadcasting. Guidelines for this pilot project are presently being mapped out by a panel of experts.

Modern equipment offers the technical means of providing a wide choice of radio and television programmes for all the people of the world. Continued development promises even greater reliability and alternative means of meeting varied technical requirements.

USE OF THE MEDIA

Whatever the structure of broadcasting, it is one of the major national resources to be used in a spirit of public responsibility. Yet there is often, and for basically excellent purposes, a tendency for broadcasting organizations to lead an existence of their own and to have little contact with the various governmental departments, or with private or semi-private organizations, which are actively engaged in public affairs. The use of radio and television for education and development, however, is only possible if there is close integration of the efforts of all concerned on the three levels of planning, production and reception of broadcast programmes.

1. Planning

The use of radio and television for education and development requires that programming be integrated into educational planning. In school education, radio and television are bound to remain incidental and relatively expensive tools until such time as the educational planning authorities have determined the principal contributions which the media are able to make under specific national conditions, and the rôle they are required to play at all levels of the educational process. The use of broadcasting requires considerable initial investment and continuous operating expenses for personnel, programmes and receivers. Such expenditure is justifiable only if it promises to yield important results which could not be obtained by other means. The promise of such results makes it possible, on the other hand, to restructure education so that it may make the maximum use of these additional facilities. Some countries of Asia have found, for instance, that television can play a significant rôle in the teaching of science and mathematics and that it may be worth while to reorganize primary and secondary education to the point where television will provide significant elements of instruction and demonstration, naturally in conjunction with the appropriate utilization of the classroom teacher. A similar restructuring of schooling might be advisable in other fields, such as language teaching, geography and history.

The methods of teacher training (both pre-service and in-service) will also have to be re-examined in the light of these new resources. If there is assurance that young teachers who leave training colleges will find opportunities wherever they are working, for continuous in-service training by radio and television, coupled with correspondence teaching, the pre-service training may be shortened and reoriented.

An even more radical approach, which educational planning authorities might take into consideration, is to meet the pressing lack of teachers and schools in certain geographic areas through the creation of schools organized around a television receiver which provides the main burden of overall instruction, along the lines of the school system in Western Samoa, the Television High School in Japan, or Telescuola in Italy.

In adult education, such co-ordination is more difficult to assure because it rarely disposes of the same institutionalized structure as school education, where responsibility normally lies with a single ministry. In the absence of such a structure, co-ordination at an early stage by the educational planning bureau is even more desirable and urgent. When the bureau envisages a number of fields of adult education, such as literacy, social education, provision of educational opportunities for adults, the development of a national language, etc., it will necessarily have to examine the various resources which might be brought to bear upon these tasks. These resources will include professional educators but will also involve other ministries (agriculture, health, community development etc.) and the mass media, particularly broadcasting. In short, adult education will have to be part of overall national planning.

On the other hand, when adult education agencies (both governmental and non-governmental) examine how they may attain their objectives most effectively and reach the widest possible public, they will have to take note in their planning of the particular contribution of broadcasting and determine the most suitable forms of co-operation with broadcasting organizations.

From the point of view of broadcasting organizations, the educational programmes will equally have to be planned in co-ordination with administrations responsible for education and development. Only in this way can broadcasters hope to obtain collaboration in the form of financial assistance, the presentation of content in programmes and the utilization of these programmes, including the provision of receivers.

In addition to these three key forces - the national planning agencies, adult education agencies and broadcasting organizations - we may also envisage the participation of other government departments in this planning process. The Ministries of Health, Agriculture and Labour will wish to examine in their planning what contribution broadcasting may make to their work. The Ministries of Communication and Information will in turn have to study how the facilities under their control might best contribute to the overall national effort. The technical infrastructure, the training of personnel and the organization of broadcasting can then be planned with a view to attaining the broad national objectives.

Experience seems to show that all efforts to apply broadcasting to the tasks of education and development remain haphazard and, frequently, stillborn as long as there is no provision for funds, equipment and personnel, nor for an organizational structure assuring interdepartmental co-operation, in the national plans which determine the future.

Sound planning will save both money and manpower in production and application. It is in the planning process that answers will have to be found to such questions as:

What investment in installations and equipment is required to assure the availability of broadcasting for educational purposes?

What legal, administrative and financial provisions should be made to facilitate close co-operation between broadcasting organizations and agencies of education and development?

What training programmes must be envisaged for broadcasting personnel skilled in the presentation of educational programmes and for personnel in other agencies so as to familiarize them with the production and utilization of broadcast programmes?

What organizational infrastructure is needed to ensure co-operation between broadcasting and other educational efforts in all their phases, from presentation to utilization?

What provision will have to be made in industry to ensure the supply and maintenance of receiving equipment.

2. Production

Co-operation between broadcasting organizations and agencies of education and development in the production of programmes is both essential and frequently difficult to attain. A number of preliminary questions will have to be answered which are linked to the very structure of broadcasting:

Which organization or institution is providing the facilities for the production of programmes (studios, technical personnel, creative talent, film facilities)?

Where does responsibility lie for the content of the programmes?

What organization or agency carries the budget for the necessary staff and operational expenditures?

What provisions are made, and by whom, for the training of staff skilled in the presentation of educational content?

In answer to these questions, different patterns have evolved throughout the world, depending on the structure and financing of broadcasting organizations, the range of responsibility of educational and development agencies, the importance attached to the production of educational radio and television programmes, and, therefore, the quantity of programmes which must regularly be completed.

In some cases, the entire responsibility rests with broadcasting organizations, which assure liaison through consultative bodies of educators. In other cases, educational authorities take over complete responsibility, which may go all the way from conception to production and to transmission itself (stations serving exclusively educational purposes). Then there are intermediary patterns: broadcasting organizations may assure the technical production of programmes, which are planned, written and produced by outside agencies; educational agencies may produce programmes in whole or in part for transmission by the broadcasting organization; educational authorities may make available to the broadcasting organization, funds and staff for the production of educational programmes.

Whatever the particular pattern adopted, certain general rules would seem to apply, which include:

The need for professional staff skilled in broadcasting and familiar with the content and methodology of educational presentations.

The continuous availability of production services specifically earmarked for educational purposes.

Machinery for close liaison between the various agencies responsible for education and development, and broadcasting organizations. Such liaison is required even when educational authorities operate a broadcasting station, because the field of adult education extends considerably beyond the normal competence of educational administration.

Certain psychological obstacles have to be overcome in addition to the material and organizational problems involved in close co-operation in the field of production. It is normal for professionals in the field of broadcasting to assume that they are specialists in the presentation of information and entertainment, that they know best what will appeal to the audience and how the resources of the medium should be employed. Professional producers are reluctant to relinquish their creative responsibility to others. Specialists in education and development, on the other hand, stress with confidence that they must be the sole judge with regard to the content of programmes. Content and form, however, are so closely intertwined that fruitful results will, in the long run, only be obtained through a staff which is thoroughly familiar with broadcasting techniques, educational methodology and, to a certain extent, educational content (the latter may be enriched through resource persons in various fields). The emergence of the "amphibious" educational broadcaster as a distinct new profession has been observed in many countries, even though he frequently faces the problem of public recognition for his new speciality, a problem which has implications for his personal and administrative status.

The application of broadcasting to education and development thus requires specific, nationally conditioned answers to the basic question of how broadcasting techniques and educational content may most effectively be blended in the production of programmes.

3. Reception

Educational broadcasting works in a vacuum as long as conditions of reception are inadequate. To create favourable conditions calls for co-operation between:

The Ministry of Communications, which must assure adequate broadcast coverage of the areas to be reached by educational programmes.

Industries producing receivers and their components, which must assure an adequate flow of radio and television sets at reasonable cost and suited to educational use.

The financial authorities of the country, which should examine how customs and tax levies can be arranged in such a manner as to favour the educational use of broadcasting.

The broadcasting organization, which will seek to arrange its programme schedules so that a sufficient number of programmes at suitable times of the day are broadcast to make it worth while to purchase receivers for educational use. In many cases, broadcasters may also be called upon to supply the very equipment required for the reception of their educational programmes.

Agencies of education and development, who will wish to assure the proper conditions of reception so that they can make use of educational broadcasts for the accomplishment of their tasks.

In countries of Asia, the use of radio and, in particular, of television, for the education of a large portion of the population, seems possible only under conditions of group reception. This is obvious in school education, as such education is normally conducted in classrooms and requires the personal contact between a teacher and a group of students, not only for instructional but in particular for pedagogical purposes. In adult education, group reception fulfils both an economic and an educational rôle. Experience shows that learning, thinking and a change of attitude are accomplished far more effectively in groups than under conditions of individual reception.

Supply and continuous maintenance of receivers is an essential pre-condition. This involves the mass production or import of low-cost receivers suitable for educational purposes in both electrified and non-electrified areas. It also calls for favourable conditions for such import and relatively low taxation of receivers serving educational development. Of particular importance is adequate provision for the distribution and maintenance of receivers. Experience in Asia shows that frequently receivers distributed by governmental authorities have a short life due to lack of provision for repair and replacement of batteries.

Responsibility for the production, supply and maintenance of receivers cannot in most cases be left entirely to the initiative of commercial enterprises or government departments in charge of light industries. They are also of direct concern to the broadcasting organization and to educational administrations. They form part of what might be termed in a wider sense Audience Relations.

Such audience relations include other aspects which may be kept in mind in recommending guidelines for future action:

(a) Promotion and organization of listening and viewing among popular audiences

This involves the training of group leaders (who should be literate) in techniques of organization, directing discussions and reporting, and the collaboration of all existing organizations involved in education and development in the constitution of such listening and viewing groups.

(b) Provision of written material to accompany broadcasts

The use of the fleeting message of the radio or television programme under the guidance of a teacher or group leader is far more effective if it is supported with accompanying written material. These permit adequate preparation for the programme as well as follow-up, including the answering of questions.

(c) Establishment of feed-back channels from the audience to broadcasting organizations and educational agencies

Broadcasting unquestionably suffers from the handicap of being a one-way channel of communication, from the centre out to a dispersed audience. But in group reception, trained teachers or group leaders can transmit regularly to the broadcasting organization written reactions, questions and comments, which in turn may be answered in subsequent programmes. Such feed-back enables the broadcaster to adapt himself better to the preoccupations of the audience and provides information on local conditions, which is of great value to all co-operating agencies. Even more important, it gives the audience a sense of participation; rather than being a mere object for broadcasts from authorities far removed, the listener or viewer senses better his own share in the common effort if he can react to programmes and if this reaction is heard and commented upon.

(d) Audience research

In addition to this continuous flow of reactions, a more general systematic sampling of both individual and group audiences, which gives not only quantitative results but also an insight as to the comprehension of programmes, is vital for the use of broadcasting. Such research might be undertaken by the broadcasting organizations themselves but is frequently the responsibility of independent agencies or academic institutions.

(e) Experimentation and evaluation

Finally, investment in such important uses of broadcasting is justifiable in the long run only if periodic evaluations show the results and indicate weaknesses.

The field of reception is frequently the most neglected aspect of broadcasting. Practice shows, however, that it is perhaps the most important, as these brief indications will have shown.

TRAINING

Training of personnel is an indispensable part of the development of broadcasting.

The form and intensity of this training varies widely in Asia, as in the rest of the world. Major broadcasting organizations, such as NHK and All India Radio, have established permanent institutions which train both technical and programming personnel. Some organizations which dispose of substantial resources of personnel with appropriate technical and creative backgrounds have limited themselves to on-the-job training as the most obvious and economic solution to staff requirements. In other situations, technical institutions, universities, broadcasting training schools, technical assistance experts or overseas centres have separately or collectively contributed to broadcasting's need for skilled and imaginative personnel. The importance of each serious training effort cannot be minimized. Broadcasting's full potential as an instrument of education, however, can only be realized when training is successful on four levels:

(1) General training of professional broadcasting staff.

(2) Special training of broadcasters in the production of educational programmes.

(3) Training of educators in the organization and production of programmes.

(4) Training of teachers, adult education leaders and others in the utilization of programmes.

As training in all of these categories must be designed to achieve a common goal, it follows that it should be based on fundamental agreement and the recognition that educational broadcasting can be successful only through close co-operation of all concerned.

The best training environment is one which most closely simulates the actual broadcasting or reception situation. At the production end this means studios, equipment and classrooms where practice in techniques and an appreciation of theory and purpose can be gained in a balanced curriculum which is based on actual needs and conditions.

The training of teachers or monitors in the utilization of broadcast programmes will also, ideally, include some experience in the production studios. Familiarity with production techniques is not only of value in appreciation of the programmes which are broadcast but also in providing the important sense of participation in educational broadcasting. The further benefit of educators and broadcasters meeting on the common ground of training will invariably be felt in future collaboration.

The training location has three separate but complementary possibilities: national, regional and foreign, each with particular advantages.

National training is the fundamental requirement. It may take many different forms, such as ad hoc training courses organized by national staff or foreign experts, a permanent training institution attached to a broadcasting organization or an educational establishment, or training within the framework of a university as part of its programme for instruction and research in mass communications.

Within the concept of a national training policy, however, there is room and often a necessity for training of a more localized nature and the opportunity for several types of organizations to fill the local training requirements. Training of community audience leaders, for example, can be undertaken by touring teams or through local seminars and short courses.

Regional training, i.e. training to meet the needs of a number of countries in a given region, should preferably be built upon a national foundation.

A substantial domestic objective can alone provide a sound basis for a training institution, which can then expand to serve regional purposes over an extended period. Given this national basis, regional training has the advantage of financial saving through the centralization of resources, justification for a better and larger staff, a stronger appeal to international aid sources and the opportunity to develop regional exchanges of experience and programmes.

Foreign training, i.e. training in countries outside the region, has a particular function in the development of international broadcasting standards, the interchange of ideas and in furthering the professional concept of broadcasting. It is generally agreed, however, that a student can only fully benefit from foreign training when he has a good background in his home broadcasting situation. Unrealistic concepts, frustration and even alienation are too frequently the product of premature overseas training.

These four possible forms of training may also be seen not as separate alternatives but as progressive stages in a broadcaster's development. Intervals of on-the-spot experience between the various stages can best ensure that the trainee remains conscious of the problems and possibilities in the day-to-day business of broadcasting.

Training for the educational use of broadcasting must obviously call for instructors with a full understanding of the broadcast media and the educational process. It does not follow, however, that the most expert specialist has the ability to develop a training didactic or to impart his broadcasting knowledge in an organized fashion. Here, the question of the instructor's background is essentially academic; ideally he will be both a broadcaster and a teacher and the order of his experience is not important. In areas of instruction that are essentially technical, a broadcasting bias may be preferred. In questions of utilization the professional teacher will probably make the best instructor.

In addition to programmes aimed specifically at professional training in educational broadcasting, certain related projects can make significant long-range contributions and create a pool of personnel from which professionals may subsequently be drawn. In the field of education, training through the broadcast media in actual use is becoming gradually a regular feature of teacher-training institutions. In the school systems and universities, practice in the use of film, tape recorders, radio and sometimes even television within individual institutions (closed circuit) can provide not only familiarity with techniques, but create early awareness of these media as forms of modern expression and possible careers in the future. In this connexion, the very use of broadcasting in the educational process helps to condition both teachers and students to their importance. Familiarization with audience research through courses of a social science character can also bring about a wider understanding of the implications of broadcast programming.

INTERNATIONAL ACTION

While the application of broadcasting to national needs is a matter of national concern and decision, international co-operation and assistance may make valuable contributions to such efforts.

In the light of the varying applications of broadcasting to education and development discussed in this paper, and of the principal practical obstacles which appear to stand in the way of a fuller use of radio and television, the following fields might be taken into consideration for international action:

(1) Production and marketing of radio and television receivers, or of certain component parts.

(2) Investment in broadcast station and transmission facilities.

(3) Survey missions to advise governments on the planning of broadcast facilities and their integration into educational and development plans.

(4) Training of broadcast and educational personnel through:
ad hoc seminars and training courses of national or regional scope on topics of direct concern to education and development;
assistance to long-term training institutions to meet national needs and to provide training facilities for fellows from other countries in the region;
fellowships for training in other countries of the region and suitable placements elsewhere in the world;
expert missions for the training of national personnel and the development of educational programming.

(5) The production of educational programmes and, in particular, programme elements (kits) suitable for broadcast or adaptation in a number of countries of Asia.

(6) Fully evaluated pilot projects in the application of radio and television to such pressing needs as the in-service training of teachers, the teaching of modern languages and the natural sciences, the extension of school facilities beyond present limitations, the teaching of functional literacy in both urban and rural areas of economic significance, and the testing of new equipment suited to the educational needs of Asia.

(7) Careful study and dissemination of the results of present experiences and new projects, and examination of the potential applications of broadcasting to specific educational and development tasks of countries of Asia.

(8) Co-operation in applying the future facilities of satellite communication to countries of Asia through feasibility studies, examination of their educational implications and practical pilot projects.

Each of these possible fields for international action is, first of all, of direct concern to the governments and professional institutions and organizations of Asia. They may also find support from the United Nations family (United Nations Development Programme, Unesco, International Telecommunication Union, Unicef, the World Bank, and others) from the Colombo Plan and from governmental and non-governmental bilateral aid programmes. Due to their varying competences and material resources, these different agencies are not in a position to make the same kind and degree of contribution to each of the above fields. But common action, in which each government and each agency contributes its share according to its particular competence, qualifications and resources, can greatly enhance the efforts of the countries of Asia to place radio and television broadcasting forcefully in the service of education and development.

BROADCASTING IN ASIA

A SURVEY OF ITS USE FOR EDUCATION AND DEVELOPMENT

I. THE STATE OF BROADCASTING IN ASIAN COUNTRIES

Broadcasting has made rapid progress in recent years in Asia. Radio services have been set up throughout the region. Television has been introduced in 12 of 20 Asian Member States: Cambodia, China, India, Indonesia, Iran, Japan, Korea Malaysia, Pakistan, Philippines, Singapore and Thailand.

In general, the increase in the number of radio stations has been followed by the introduction of a greater number of receivers. In some countries, the increase has been remarkable during the last five years: e.g. 350,000 radio receivers were counted in Korea in 1960, which grew to some 1,380,000 sets at the end of 1965; during the same period domestic listening in Thailand jumped from 250,000 to 1,600,000 receivers. The spread of radio listening in Asian countries is mainly due to the marketing of transistor receivers. The above examples and figures, however, can give only a slight and somewhat wrong idea of the present situation of radio broadcasting in Asia. The number of receivers is relatively small compared to the population in each country. As will be seen from Chart No.1 only seven countries out of 20 reach the percentage of five sets per 100 inhabitants which, in the view of Unesco, is a minimum for adequate coverage. In certain countries, however, the shortage of receivers is compensated to a limited extent by the organization of listening groups, some of which make a significant contribution to mass education campaigns. It is in this connexion that radio broadcasting in India fulfils important tasks in social education, community and national development, although the total 4,315,242 receivers in the country do not represent more than 0.9 sets per 100 people. The highest percentage is to be found in Japan (20.4 sets per 100).

Some Asian broadcasting systems must serve large populations using no generally-accepted common language. All India Radio, which provides programmes for 440 million people, broadcasts in 51 languages and 82 tribal dialects.

In general, most broadcasting progress has been made in transmission. Japan, for example, has 400 transmitters, compared with 195 in 1953; Iran, 22 (5 in 1953); and the Philippines, 127 (9 in 1953). China has 68 radio stations as compared with 16 in Iran. Korea has an intricate wired radio system with "some 17,000 speakers" scattered through the villages. These are served by some 4,000 amplifying units. However, the density of coverage is frequently very unequal between urban centres and rural regions.

As for television, although the number of transmitters in Asia has increased from 1 to 170 since 1950, many stations are still experimental and few outside Japan can be viewed by people who do not live in major cities or their surroundings.

Furthermore, 127 main stations are concentrated in Japan which also operates 92 auxiliary and 4 experimental stations. It is also Japan which has the highest rate of reception as far as television is concerned, with some 17,500,000 sets, or 17.8 per 100 people. The next ranking Asian countries are Thailand, with 250,000 receivers (0.83 per 100 people) and the Philippines,

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Note: The information in this report has been obtained through questionnaires sent by Unesco to broadcasting services in Asian Member States, prior to the "Meeting on broadcasting in the service of education and development in Asia", as well as through written and verbal reports by participants at the meeting.

In addition, Unesco publications and reports on previous meetings, as well as articles and other publications, have been consulted to complement the information.

with 200,000 television sets (0.66 per 100 people).

The majority of radio broadcasting services are owned and operated by government departments and financed from public revenues and/or the collection of licence fees and frequently also from commercial revenues. In addition, there are commercial broadcasting organizations in China, Japan, Korea and the Philippines.

In television, the picture is reversed, and the majority of Asian countries have some form of commercial operation. This may be due particularly to the higher cost of television and its greater potential impact. Television is government-owned and non-commercial in Cambodia, India, Indonesia and Malaysia. NHK also operates on a non-commercial basis, but is in competition with important commercial networks. Elsewhere, too, publicly-owned or government stations compete with commercial broadcasting or operate themselves (as in Pakistan and Thailand) on commercial lines. Iran has, as of this date only a privately-owned commercial television network.

Asian broadcasting services are operated by relatively well-qualified technicians and programme producers. However, the number of radio and television specialists is still small compared with the needs, and training programmes are being envisaged or run in some of these countries. In many cases, moreover, this personnel operates under difficult conditions, owing largely to a lack of adequate equipment. But there already exist good schools within and outside the countries for staff training, and in some cases on-the-job training systems provide for more qualified radio and television staff. This personnel, however, is rarely specialized in educational programming or educational programme reception, which does not enable radio and television to play their role efficiently as educational media in countries where mass education is more and more becoming the answer to illiteracy and underdevelopment.

Chart No. 1

Country	Population	Radio Receivers	per 100	TV Receivers	per 100
Afghanistan	13,800,000	40,000	0.29	-	-
Burma	24,200,000	256,852	1.06	-	-
Cambodia	6,000,000	300,000	5	6,000	0.1
Ceylon	10,624,507	619,000	3.93	-	-
China	12,429,083	1,270,126	10.21	45,661	0.36
India	440,000,000	4,315,242	0.9	2,000	0.0004
Indonesia	96,000,000	823,000	0.9	40,000	0.04
Iran	22,523,039	1,600,000	7.1	100,250	0.4
Japan	97,960,000	19,982,835	20.4	17,502,542	17.8
Korea	27,763,000	1,379,934	4.9	50,000	0.1
Laos	4,000,000	50,000	1.25	-	-
Malaysia	7,500,000	322,123	4.29	114,000	1.52
Mongolia	937,000	25,000	2.3	-	-
Nepal	9,500,000	40,000	0.42	-	-
Pakistan	98,612,000	871,000	0.8	14,000	0.002
Philippines	30,241,000	1,225,000	4	200,000	0.66
Singapore	1,800,000	148,000	5	68,659	2.6
Thailand	30,000,000	1,610,000	5.3	250,000	0.83
Viet-Nam	14,000,000	150,000	1	-	-

II. THE STATE OF EDUCATIONAL BROADCASTING

Many Asian broadcasting services have broadcast educational programmes over their networks. In some of the countries, school and out-of-school education by radio or television is regularly programmed and the percentage of these educational broadcasts compared with the total broadcasting time is in some cases very high. The following gives an account of the present state of educational broadcasting in various Member States.

TIME DEVOTED TO EDUCATIONAL BROADCASTS

Burma: The Burma Broadcasting Service devotes nearly three hours to education and as much to national development every week. As far as school education by radio is concerned, special attention is paid to the use of broadcasting in secondary schools (25% of the total educational radio time) and in vocational training (28%). Out-of-school education consists of programmes on rural development (32%), civics (37%), the popularization of science and art (23%), health and hygiene (8%).

Ceylon: In Ceylon there are 46 hours of educational broadcasts on the air weekly, out of a total of 245 hours of national broadcasting per week. The programmes deal with both school and out-of-school education. Primary schools are given 11% of the educational broadcasting time, while secondary programmes cover 45.5%. Teacher training (11%) and university teaching (3.5%) are other subjects dealt with by educational broadcasting. Radio Ceylon also produces programmes designed for adult education. These concern rural development (five hours per week, or 11% of the time devoted to such educational programmes) health and hygiene, literacy teaching, civics, and the popularization of science and art for general audiences.

China: The Educational Broadcasting Station in Taipei, Taiwan, transmits 70 hours per week of programmes serving education and national development. The broadcasts are designed for primary school education (10%), secondary schools (30%), vocational training and teacher training; university teaching programmes held 10% of the total broadcasting time. Adult education broadcasts include health and hygiene, literacy programmes, civics, and popularization of science and art for general audiences.

India: For the students in schools and colleges broadcasting has not only to supplement the classroom education, but to provide a sense of purpose and direction so that students grow up to be responsible members of society. Of 367 radio hours of educational programmes per week All India Radio devotes, however, only 17% to school broadcasts, as the main emphasis in educational radio broadcasting is now on out-of-school programmes.

The use of radio broadcasting for adult education in India finds its most important expression in the "Rural Radio Forums". Special mention of these will be made later in this paper, when group reception is dealt with. Besides, All India Radio operates an experimental television station in New Delhi which also broadcasts the school television service. It was inaugurated in September 1959, as part of a Unesco-AIR project to study the impact of television as an educational aid. One-hour programmes, designed for community viewing, have been transmitted twice a week since 1960. They are mainly informative and educational in character and include illustrated talks, interviews, discussions, documentary films ballet and light and classical music.

All India Radio's school television service was started in 1961. Its 16 hours per week carry instructional programmes to students in middle and higher secondary classes in Delhi. These television lessons are part of the established curriculum and cover physics, chemistry, general science, English and social studies.

Japan: The oldest broadcasting service in Asia is that of the Japanese Broadcasting Corporation NHK, the Fortieth Anniversary of which was celebrated in 1965. NHK's educational programmes were started in 1935. Today, over 99% of all schools are equipped with radio receivers. Radio school programmes are broadcast to primary schools (12%), secondary schools (20%) and universities (8%). Also vocational training (1% of the total educational time) and pre-school education (1%) are dealt with by radio. Besides, a number of programmes on subjects relating to national development are broadcast. Rural development (10% of the total educational time), health and hygiene (5%), civics (22%), popularization of science and art for general audiences may be mentioned. School broadcasts and out-of-school programmes are transmitted through three radio networks: Radio 1st Network devotes 9% of its transmission time to education: Radio 2nd Network broadcasts 54.6% of educational programmes; the third Network is an FM one, which gives 19.7% of its time to educational programmes.

Two NHK television networks broadcast educational programmes: 12h 30 min. or 9.9% a week in the General Television Network, and 85h 35 mins. or 81.6% in the educational television network (1). School programmes on television are designed for pre-school education (10%), primary school education (15%), secondary school education (20%), vocational training (3%), teacher training (2%) and university teaching (5%). As for out-of-school education, the distribution is as follows: rural development (5%), health and hygiene (2%), civics (25%), popularization of science and art for general audiences (15%).

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(1) These figures do not include the educational television programmes in colour as do the figures shown in Chart No. 4.

Laos: Six hours per week are devoted to educational broadcasts. Half of this programme time consists of school broadcasts, aimed so far only at primary schools. Extension to secondary schools is envisaged. The other half is devoted to adult education, covering such subjects as rural development, health and hygiene and civics in equal parts (10%), popularization of science (5%) and literacy programmes (10%). Considerable extension and improvement of educational broadcasts, particularly to schools, are foreshadowed in a three-phase plan. In its last phase the plan provides for the extension of school broadcasts to secondary schools, treating in its daily two-hour transmissions such subjects as French and English lessons, literature of the world, economics for advanced students, and current affairs of Laos and South East Asia.

In Malaysia, a "pilot project on educational television" was organized by the television service in 1965. The latter project consisted of ten half-hour lessons on Form II science, telecast to some 100 Malaysian schools. The service intends to double the number of lessons in 1966 and to conduct a survey to assess the usefulness of the project. In the meanwhile, about eight hours per week are devoted to television programmes serving national development, comprising rural development (50%), health and hygiene (10%), literacy teaching (5%), civics (10%), art and science (25%), while other broadcasts are produced for secondary school education. Also radio programmes for schools are regularly transmitted. A total of five hours a week is produced to serve educational purposes.

In Mongolia some 31 hours of educational radio programmes are broadcast every week, covering a wide range from pre-school education to university teaching. Efforts, however, are particularly concentrated on primary (8%) and secondary school education (6.4%). Rural development (24.1%) and other aspects of adult education, such as health and hygiene, civics, and the popularization of science and art (12.9%) are also areas in which radio broadcasting plays a leading part.

Radio Nepal has no specially organized educational service, but a number of broadcasts are conceived in a way to provide educational materials to listeners.

In the Philippines the government radio network, the Philippine Broadcasting Service, broadcasts educational radio programmes concerned with rural development or the popularization of science and art for general audiences. In addition, it provides school broadcasts in joint partnership with the Bureau of Public Schools for a total of $6^1/2$ hours of programmes a week. Of this, 72% is for elementary school education, 16% for teacher training, .08% for out-of-school education, and .04% for the pre-school level. All these broadcasts are aired over the seven medium-wave and two short-wave stations constituting the Philippine Broadcasting Service Network.

Educational television is under the auspices of the Metropolitan Educational Television Association (META), Inc., an association composed of educational institutions, both public and private, as well as government agencies having a stake in the development of this medium. The Director of Public Schools is chairman of the Board of Directors. Using the facilities of the closed-circuit television system of the Ateneo University, the META produces programmes for secondary schools, which are aired on a commercial station. These programmes are received by more than 50 public and private high schools in the Greater Manila area and the neighbouring provinces. The main objective of the programme is to introduce and establish the use of television for in-school instruction in the Philippines.

In Pakistan, radio is entirely a public service organization. The broadcasting policy of Radio Pakistan, as announced by the Minister of Information and Broadcasting, states that "radio time is people's time and must be used in the best interests of the people" in order to serve education and socio-economic development. In a country of 100 million people, where literacy is approximately only 25 per cent, and where 80 per cent of the population lives in villages inaccessible to printed matter, radio has to assume the functions of educator, informer, and socio-economic reformer. It is estimated that five million people regularly listen to one or other programme of Radio Pakistan.

Pakistan is experiencing what may be termed an education explosion. To meet educational needs, ill-equipped schools are springing up and ill-equipped teachers are taking charge of students. To help the educator in his difficult task, Radio Pakistan is broadcasting direct instructional and enrichment programmes. At present, seven regional stations of Radio Pakistan are putting out 210 minutes of school broadcasts on all working days. They are imparting direct instruction based on the school curriculum in 6 subjects, i.e. history, geography, general sciences, civics, home economics and health and hygiene, and are teaching in three languages, namely, Urdu, Bengali and English. In addition to these programmes, all stations of Radio Pakistan broadcast college and university programmes and it is proposed to start a 30 minute daily programme for the university students from Lahore and Dacca.

In 1965, the radio authorities established a Directorate of Educational Broadcasts at the Directorate-General of Radio Pakistan, which indicates the importance attached to this field of broadcasting.

As to television in Pakistan, a beginning was made late in the year 1964 with the setting up of two stations at each provincial capital, Dacca in East Pakistan and Lahore in West Pakistan. This marks the first step towards the introduction of a General Purpose Television Service in Pakistan.

Each station is producing approximately 18 hours of programming a week. The programmes consist of informative talks, features, news commentaries, interviews, sports, music, plays and programmes for special audiences - e.g. women, children and youth. 35% of the programmes are recorded material and 65% live. The programmes also include an average of 10 minutes of advertising time per hour. The transmitting of strength of each station is 300 watts, with an effective radiating power of 550 watts each.

Singapore. Two new television studios are now being completed at the Teachers' Training College, Singapore. The purposes of these studios are:

(a) to originate closed-circuit transmissions with the college campus as part of teacher-training programmes;

(b) to record school programmes and have these transmitted via T.V. Singapura's (Ministry of Culture) transmissions service.

The educational television service will be run by the Ministry of Education. Production of both closed-circuit and schools' programmes will be centred at the expanded Audio-visual Unit of the college. The closed-circuit facilities (including a mobile unit) within the college will be used to record and relay lectures, demonstrations and special programmes for about 14 subject departments of the college and for classroom teaching observations and child study sessions.

The Ministry of Education of the Government of Thailand owns and operates a radio station which, since 1954, has broadcast to home listeners and teachers, and since 1958, to schools. Numerous difficulties, however, impede the effectiveness of the station, among which the competition from other, commercial stations, with powerful transmitters, appears to be the most serious. At present the Ministry of Education is looking forward to the installation of a new 10kw transmitter. Another problem, since the creation of educational radio in Thailand, arose with schedules. Schools do not observe the same timetables, and when two subjects are broadcast consecutively, there is often insufficient time to move a receiver or shift students from classroom to classroom. This problem was met by broadcasting each programme four times a week at different hours. Programmes are designed for primary (43%) and secondary school education (18%) as well as teacher training. Other broadcasts deal with health and hygiene, or with literacy teaching, civics, popularization of science and art for general audiences.

The following tables (Charts Nos. 2, 3 and 4) will give an idea of the amount of pre-school, school and out-of-school educational programmes broadcast in some Asian countries, in comparison with the total broadcasting time, in hours per week.

Radio Chart No. 2

Country	Total broadcasting time (hours per week) Home Service	Educational programmes (hours per week)	National development (hours per week)	Percentage of school programmes					
				Pre-school broadcasts	Primary school broadcasts	Secondary school broadcasts	Vocational training	Teacher training	University programmes
Burma	75.15	2.40	3.10			25	28		
Ceylon	245.50*	46			11	45.5		11	3.5
China	273	70			10	30	5	2	10
India		639				10	5	1	1
Japan	410			1	12	20	1		8
Laos	63	6			50				
Mongolia	147	31		4.5	8	6.4	3.7	5.9	3.7
Pakistan**	770	93	350	1		92			4.5
Thailand		41			43	18		7	

* Exclusive of 215 hours by commercial stations

** Nine regional stations

Radio Chart No. 3

Country	Adult Education Percentage of Educational Programmes				
	Rural Development	Health and Hygiene	Literacy Programmes	Civics	Popularization of Science
Burma	32	8		37	23
Ceylon	11	2	5	3.5	7.5
China		5	2.5	5	5
India	55	10		10	15
Japan	10	5		22	20
Laos	10	10	15	10	5
Mongolia	24.1	1.6		3.2	12.9
Pakistan*	46.8	10.5		10.5	10.5
Thailand		1	6	10	15

* Nine regional stations

Television Chart No. 4

Country	Total broadcasting time in hours per week	Total educational and development programme time in hours per week	Percentage of Educational Programmes									
			School					Out-of-School				
			Pre-school education	Primary school education	Secondary school education	Vocational training	University teaching	Rural development	Health and Hygiene	Literacy programmes	Civics programmes	Popularization of science and art
India	23	16			66				7		17	10
Japan (NHK)	252	112	10	15	20	3	1	5	1		25	15
Malaysia	28	13			40			30	8	3	8	10
Pakistan(3)	770	440 (2)	.03		11.8		.55	6.1	1.3		1.3	1.3
Thailand	112(1)	1.^{1}/2 hrs. per month		33	33						33	

(1) Thai Television Co. Ltd. and The Army Television HSA-TV Networks
(2) By the Education Broadcasting Service - Ministry of Education
(3) Nine regional stations

CO-OPERATION BETWEEN BROADCASTING ORGANIZATIONS AND GOVERNMENT BODIES

In Burma, educational programmes are planned with the Ministry of Education, while national development programmes are planned in conjunction with the government departments concerned, such as the Agricultural and Rural Development Corporation, Health, Department, Union of Burma Sports and Physical Education Committee, etc. Co-ordination is assured through a School Broadcasting Advisory Committee.

In Ceylon, rural broadcasts are planned and instituted in conjunction with the departments of Agriculture, Health, Land Development, etc. Some of these departments have set up publicity divisions to handle radio broadcasts. School programmes are planned on the advice of educationalists drawn from the Department of Education. Co-ordination between broadcasting and the administration is maintained in various ways: (i) through advisory committees; (ii) through interdepartmental consultation; and (iii) on direct application made by other departments for specific projects.

The educational broadcasting station in China plans its programmes of language teaching (German, French and Spanish) within the framework of overall educational planning which aims at extending European languages in China. The station, on the other hand, has an Educational Programme Design Committee composed of college professors, school-teachers, sponsors of specific programmes, officers of the Ministry of Education, etc. The committee co-ordinates the activities of the station and the administration in charge of school and adult education and of national development.

In Japan, NHK's school broadcasts, agricultural programmes, and other educational broadcasts are planned and produced in close contact with the Ministry of Education, Ministry of Agriculture and Forestry and other governmental agencies concerned. Experts of these governmental agencies are members of a committee for the planning and production of educational programmes.

Rural broadcasts in Nepal are made in conjunction with the government development projects. General and adult education programmes are planned and produced by the Department of Education under the supervision of Radio Nepal. National development broadcasts are run by Radio Nepal itself. Its programme section deals with all specific programmes including educational ones.

In Thailand, the school radio programmes are planned in conjunction with the national scheme of education which forms part of the overall national development programme.

GROUP RECEPTION

The production of educational broadcasts must be planned together with the organization of group reception in order to assure the effectiveness of the programmes despite the lack of radio or television receivers. In some Asian countries, reception groups have been formed as from the very beginning of educational broadcasting. School programmes are received through group listening and some radio and television stations keep closely in contact with their school audiences.

In Ceylon, reception groups have been organized in two different ways: (a) clubs, formed in a particular district for a given period under the immediate supervision of the agriculture department, for the purpose of intensifying agricultural promotion; (b) rural listener clubs, formed on an all-island basis, with a view to giving rural listeners the opportunity to participate in rural programmes. Reception groups channel their questions and comments, through the agricultural department representative, or through the rural programme producers who periodically tour the various districts. Apart from this, there is direct communication between reception groups and station producers. Apart from the above types of group listening, schools and training colleges also have reception groups and they are guided in their listening by the schools service time-tables issued to them.

In China, the educational broadcasting station at Taipei makes a survey of audience opinion every year. This provides the principal material to help the programming progress, but there is no group reception organized within the educational broadcasting system.

India, a well known example of group reception is given by the Indian rural radio forums, which started some ten years ago and have made steady progress ever since. At present, some 12,500 rural radio forums are functioning in India. The following main reception groups have also been organized: community listening groups for listeners in tribal areas; industrial listener forums for industrial workers; listening clubs for women; listening clubs for children; secondary school listening groups; university students' listening groups.

This form of community listening encourages, at the listening end, discussion of the programmes broadcast, followed by communication of comments and suggestions to the radio station. The process exercises a direct influence on the planning and production of programmes in accordance with the listeners' comments or preferences expressed.

In Japan, some 40,000 primary and lower secondary schools belong to the National Association for Research on Educational Broadcasts, which is organized voluntarily by teachers who utilize school broadcasts. Besides, many listeners and viewers belong to the women's classes (24,000) which are organized to utilize NHK's women's programmes, and agricultural groups who utilize agricultural broadcast programmes. The National Association, women's classes and broadcast agricultural groups hold their respective study meetings and courses for training leaders. The results of such meetings and courses are reflected in the production of NHK's educational programmes.

In Thailand a number of schools have been selected which are requested to fill in a questionnaire after listening to each broadcast and return it to the division of educational information. Moreover, seminars and conferences for educational authorities, supervisors and teachers are held at regular intervals all over the country, which give the programme specialists an opportunity to hear the comments of the audience. There is, however, no such organization in the Thai television service.

III. THE PRINCIPAL NEEDS

One of the most pressing needs, in many Asian Member States, seems to be the training of educational broadcasters. While general broadcasting can benefit from the qualifications and experience of good specialists, from both the programming and the technical points of view, education by radio and television very often is conducted either by educationists with no background in broadcasting, or by radio and television producers whose experiience in teaching is insufficient. Occasionally, however, there are national or regional training courses organized with a view to developing educational broadcast production. In some countries such courses are replaced by the provision of fellowships for studies abroad.

One of the questions that Unesco asked Asian broadcasting services prior to this meeting relates to staff training. "What provisions are made for training in educational broadcasting: (a) training of producers for educational programmes; (b) training in the use of educational programmes (teachers discussion leaders, etc.)." Below are quotations from answers to this question:

Burma. There is no particular provision as such for educational programmes. However, government scholarships are given to staff members to study broadcasting in general at the BBC, Radio Australia or NHK.

Ceylon. At the moment there is no training scheme for producers of educational programmes except for occasional offers from friendly countries like Japan for participation in seminars and discussions. There is no scheme of training in the use of educational programmes, owing to lack of staff.

China. Some colleges have a department of broadcasting where most of the educational radio producers are trained. In addition, regular on-the-job training helps to increase the number of specialists.

India. All India Radio runs two staff schools, one for the programme staff and the other for the technical staff. Staff training school (programmes) provides training to newly-appointed producers and programme staff, as well as refresher courses for those already in service. All India Radio organizes courses in "Radio in education" in the teacher-training schools. Special seminars of teachers and members of the staff are also organized at All India Radio stations to exchange views and to discuss the aims and objectives of educational broadcasts, such as classroom utilization of educational broadcasts, planning of programmes, their assessment and evaluation.

Japan. Training of NHK's producers of educational programmes is conducted at NHK's central training institute. NHK also accepts trainees from countries of South East Asia, Africa and other regions. Leaders and teachers are trained at study meetings and training courses of the national association for the research of educational broadcasts.

Laos. One producer is being trained at the BBC, one producer is untrained, three former teachers are working full-time as editors but they do not have any training in radio production, two untrained editors are working part-time, the speaker/actor has also no formal training.

Malaysia television. Producers are being sent overseas to specialized training centres like CETO, NHK, CBC and Australia. Training in the use of educational programmes is not being done yet, but it is proposed to hold seminars with teachers during the school holidays to acquaint them with the use of these media.

Mongolia. Special provision is made in State plans to train national specialists, among them specialists in radio broadcasting with an educational background.

Nepal. Nepal does not have regular training in educational broadcasting, but sometimes officers are sent abroad to more developed radio stations for observation tours and bring back information on new techniques of educational programmes.

Pakistan. Among the problems to be solved are:

(1) How to motivate the class teacher to utilize school broadcasts.
(2) How to get resources for printing advance school broadcast schedules and teacher guides.
(3) How to organize reception where classes have no separate rooms.
(4) How to organize reception in one-teacher schools.
(5) How to organize reception in overcrowded schools.
(6) How to survey scientifically the extent of school broadcasts utilization.
(7) How to organize a regular system of feedback.

Philippines. There is no provision for formal training in educational broadcasting.

Thailand. Producers are trained on the job as well as at some institutions in more advanced countries, e.g., the ABC, NHK, the BBC and several universities in the United States of America. Seminars and courses are organized for teachers and education supervisors in different parts of the country. Instructions on the use of broadcasts to schools are published in handbook form. Three times a week, talks are given on the radio in a programme called "Teacher's Hour".

The training of qualified staff, therefore, is most urgent for many broadcasting organizations in Asia and, in particular, to their education programme departments. This problem is very important because broadcasting programmes are expected to serve the principal needs of society.

Asian broadcasting services have particularly specified the following needs in education and development which radio and television are expected to meet.

Ceylon. The principal needs in education which radio is expected to meet are: broadcasting to schools and training colleges as a supplementary medium; language teaching; broadcasting to universities, based on the university syllabuses; adult education through programmes intended in particular for listeners in rural areas, on agriculture, industry, rural development, health and hygiene, national development, art, and first principles of science.

China. To extend school education in order to solve the present problem of deficiency in faculty and scarcity of classrooms, to eliminate illiteracy and advance the national standard of civilization, to enlighten the general public on the national heritage and help them enhance their knowledge.

India. Elimination of poverty and illiteracy, developing an agro-industrial economy and bringing about national integration and solidarity; for the students in schools and colleges, not only to supplement classroom education but provide a sense of purpose and direction so that they grow up to be responsible members of society; for the villages with their multiplicity of dialects, customs and traditions, broadcasting has to be a guide in their daily profession of farming as well as the source of entertainment and of much-needed relaxation after their hard day's labour; other segments of the community, such as industrial workers, tribal populations, children and women, have an equally important need for education and development, and for all of these broadcasting has to provide special programmes and services.

Japan. Radio and television are playing a great role in promoting equal educational opportunities and in raising the educational level of the people.

Laos. In view of the lack of enough qualified primary school teachers, radio is expected to supplement instruction in such basic subjects as arithmetic, elementary science, hygiene, agriculture, history and geography. It could provide material and documentation in such fields as ethics and music. Radio can develop a sense of unity among schoolchildren living in remote villages and strengthen their sense of perception of the outside world.

For adults, radio programmes could render useful service in the fields of literacy, agriculture, health, sense of national unity and religion.

Malaysia. Television is expected to provide good educational programmes intended for schools in the form of straight instruction, as well as a supplement for the classroom work of the teacher. In the field of national development, it will provide the people with information and is also expected to arouse their desire to help themselves.

Mongolia. Mongolian radio services attach great importance to the raising of cultural and educational standards by popularizing the achievements of world science, art and culture. At present, efforts are being made to apply these educational and cultural aspects of radio broadcasting to the task of the new national development plan of 1966-1970.

Nepal. Radio is expected to help in educating the people in various ways: programmes for schools, including lessons in the curriculum, programmes to teachers in the classrooms, etc.

Pakistan. The complexity of undertaking a television project might be summarized as follows:

(a) Time involved in the survey, selection and acquisition of sites.

(b) Availability of trained personnel to man television stations. Each station would require at least 90 programme and engineering personnel.

(c) Shortage of trained and experienced designers and planning engineers.

(d) Delay in the procurement of equipment for television stations.

Philippines. Television in the Philippines is expected to assist in filling the gaps in the present education and training programmes for critically-needed manpower through classroom type programmes, which will help intensify education, supplement instruction of children at the elementary, primary and secondary levels, complement the college curriculum and raise the literacy rate of the people. It will also bridge the gap between the need for competent teachers and the resources available through mass instruction. Other needs that television is expected to meet are disease prevention, health promotion, and the development of cultural activities, e.g., through concerts and drama. Its assistance in community development through civic-oriented type programmes is one of the most important aspects of its utilization in education. It is, finally, expected to discuss issues of national concern and attempts at reform by the government, as they affect the nation's objectives, for the purpose of soliciting the co-operation of the people.

Radio broadcasting, although less effective than television where in-school instruction and educational programmes are concerned, can reach a wider audience; its function is to develop an enlightened and co-operative citizenry through broadcasts of an educational and informational character.

Thailand. Dissemination of information; literacy programmes, promoting public awareness of trends in development; supplying broader educational background; training and upgrading of teachers and balancing their inadequacy in specialized fields; popularization of science and art - these are the various needs that radio and television are expected to meet, though the latter medium is still at an exploratory and experimental stage.

The above answers show that many Asian broadcasting services have similar needs and problems, the solution to which may be partially envisaged on a regional basis. More details of these issues are given in the last part of the present document, which will deal with the outlook for the future and the main problems impeding intensified use of broadcasting for education and development.

IV. THE OUTLOOK FOR THE FUTURE

The last question ("What is the outlook for the future and what are the main problems impeding intensified use of broadcasting for education and development?") brought in these answers:

Afghanistan. Afghanistan is in the process of starting a special broadcasting programme for schools in co-operation between the Ministry of Education and the Ministry of Culture and Information.

School broadcasting will help to fulfil the following tasks:

(1) Provide in-service and pre-service training for teachers;

(2) enrich and supplement the work of the teacher in the classroom;

(3) provide direct teaching, following the general outline of the syllabus;

(4) improve opportunities for adult education.

Burma. The Burma broadcasting service intends to expand its programmes as soon as possible. One factor which impedes the intensified use of broadcasting is the lack of sufficient numbers of radio receivers, particularly in schools.

Ceylon. The main problems impeding intensified use of broadcasting for education and development are: (i) lack of equipment and personnel for closer contact with listeners and listening groups; (ii) lack of trained personnel who have specialized in the techniques of broadcasting for educational development. Most of our trained broadcasters have gone through the general course offered by the BBC, which of course is limited to general theory and practice of broadcasting; (iii) the amount of co-ordination, particularly with reception groups in rural broadcasting and with schools, is insufficient.

China. In the near future, the educational broadcasting station in Taipei will set up a province-wide network which can help in solving the problems of shortage of teaching staff and lack of classrooms, which are caused by increase in population. The main problems impeding the intensified use of broadcasting for education and development are of a budgetary nature.

The Broadcasting Corporation of China has the intention and willingness to step up programmes in the field of education and development but hiring capable personnel, increasing radio power and printing textbooks all cost money to carry out.

India. For a country with gigantic problems of illiteracy and social transformation, broadcasting is the only source of information, education and entertainment for large numbers of people in vast areas who are sometimes without any other means of contact or communication. Development of broadcasting is linked with the economic plans of the country as a whole. The fourth five-year plan will begin in April 1966. Some of the targets which All India Radio will seek to achieve through this plan are:

Radio

(1) Coverage of at least 95% of the country for the programme service on medium wave.

(2) Improvement and expansion of the meagre programme production and staff training facilities.

(3) Extensive and intensive service for rural audiences. In order to achieve this the duration of rural broadcasts which was 30 to 45 minutes per day, was raised to 1^1/2-2 hours by 15 August 1965. A new "Farm and home unit" was created to disseminate scientific information with regard to agricultural activities.

(4) Provision of at least one community reception set for each of the 568,000 villages in India (at the moment there are about 200,000 community receivers).

Individual listening can grow only when a person of modest means is in a position to buy a receiver; thus All India Radio is faced with a two-fold problem: to expand and increase community listening and, at the same time, to provide for the day when individual listening becomes universal.

(5) Provision for increased activities in audience research to find out actual listener preferences. Just recently listener research units were set up at the headquarters of All India Radio as well as at the regional stations.

Television

In the fourth five-year plan provision has been made for the setting-up of television studios in four major cities, viz. Bombay, Calcutta, Madras and Kanpur. An adequate supply of television sets as well as technical equipment are the immediate needs and as soon as these facilities are available All India Radio will launch two projects through television: (a) a literacy campaign; and (b) farm education.

Japan. Educational broadcasts are expected to be developed further in the sense that such broadcasts help to promote equal educational opportunities, raise the level of education and mitigate the shortage of teachers. One problem which hinders the use and development of educational broadcasts is the fact that radio and television receivers have not yet been installed in all schools and educational institutions. In Japan, there is a problem in the relationship between the formulation of school curricula and the arrangement of subjects for school broadcasts. It is therefore desirable that courses in audio-visual education be established in teachers' colleges and in the education departments of universities, so as to raise the interest of future teachers in educational broadcasts.

Laos. The improvement of educational broadcasting is envisaged in three phases:

(1) Extension of the daily services from one to two hours and the hiring of more staff.

(2) One and a half hours of educational programmes every morning for secondary schools.

(3) Extension of school programmes from one and a half hours to two hours daily.

The main handicaps are the lack of trained staff and the difficulty in communicating directly with schools which receive the programmes. It is also difficult to establish effective maintenance services and to provide for spare parts.

Malaysia. The lack of good television teachers and writers who understand the use of the medium and the lack of funds are the main problems which impede the intensified use of broadcasting for education and development, but the outlook for the future is very good because all concerned are enthusiastic about their work.

Mongolia. Radio broadcasting is steadily improving and plans are under way to build Mongolia's first tele-centre in the near future.

Nepal. A 100kw high-power transmitter will be installed in the near future which will enable broadcasting hours to be extended and reception to be improved throughout the country. More receiving sets are necessary for schools and institutions and when these two problems have been solved school programmes will be broadcast more effectively.

Pakistan. The plan for the General Purpose Television Service in the country has been so worked out that strain on foreign exchange resources is avoided as far as possible. It is for this reason that the proposed Television Corporation will be authorized by government to accept equity participation by foreign firms engaged in equipment manufacture and programme production, so as to meet a substantial part of the requirements in equipment and programming without expenditure in foreign exchange. The majority of shares in the Television Corporation will, of course, be held by the government. It is hoped that the Corporation will attain self-sufficiency through sale of advertising time, which has been fixed at a maximum of 10 minutes per hour.

Philippines. Organization of reception groups is the next important task. The main problem impeding the intensified use of radio for instructional type programmes is the fact that such programmes can only be really effective with the help of audio-visual aids. A centre for educational television at Ateneo University was established two years ago and the services of the Ateneo closed-circuit television network have been extended beyond this network in as many as 50 public and private high schools in the greater Manila area by the Metropolitan Educational Television Association Inc.

The benefits and the need for educational television has been demonstrated to Philippine educators and the future of ETV in the country is certainly assured. A survey of ETV in South East Asian countries has already started.

The main problems impeding the intensified use of television for education and development is finance and the lack of competent teachers and specialized personnel. It is believed, however, that with the continued support of Philippine educators and of civic-minded individuals, organizations and financial institutions in the country and abroad, educational television in the Philippines will forge ahead to become a valuable tool in educational and national development.

Thailand. The main problem impeding the intensified use of television for education in this country is the fact that the people are not yet fully prepared for the potentialities of this medium. To use television effectively in schools a full understanding of the possibilities and limitations of the medium on the part of those who make and use the programmes is essential. The outlook for the future is very hopeful and the use of television in schools is envisaged within two years from now.

The answers to the questionnaire show that the concept of using radio and television for education and national development is gaining support among broadcasters, educators and development specialists but that the main limitations are financial and budgetary. The situation can be summed up in a sentence contained in one of the replies to the questionnaire:

"The potentialities of broadcasting are limitless, but the resources are not".

FINAL REPORT OF THE MEETING ON BROADCASTING IN THE SERVICE OF EDUCATION AND DEVELOPMENT IN ASIA

INTRODUCTION

1. The Meeting on Broadcasting in the Service of Education and Development in Asia was convened by Unesco at Bangkok, Thailand, 16-23 May 1966, under the United Nations Development Programme (Technical Assistance Sector).

2. The Meeting was attended by 38 participants and 8 specialists in the fields of broadcasting and education from 18 countries of the region. It was also attended by 8 representatives of the United Nations and the Specialized Agencies and by 12 observers from Member States outside the region and non-governmental organizations.*

3. The Meeting was inaugurated by H.E. Mr. Mom Luang Pin Malakul, Minister of Education of Thailand. The following Bureau was elected:

Lt. Gen. Kricha Punnakanta (Thailand), Chairman
Mr. Aziz Hamid (Afghanistan), Vice-Chairman
Mr. K.S. Mullick (India), Vice-Chairman
Mr. P.S. Raman (Singapore), Rapporteur
Mr. Bounthamaly (Laos), Chairman, Working Group No.1
Mr. Masud Qureshi (Pakistan), Chairman, Working Group No.2

4. In seven plenary sessions and four sessions each of the two working parties, the Meeting discussed the role of broadcasting in economic and educational development. It concluded that radio and television have a vital contribution to make and that this should be fully recognized through integration into national plans, priorities and allocations for social, educational and economic development.

5. So that governments, and their authorities concerned with social and educational development planning, may draw the best advantages from broadcasting, the Meeting unanimously adopted the following Conclusions and Recommendations:

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* See list of participants in Annex

CONCLUSIONS AND RECOMMENDATIONS

THE NEW APPROACH

6. Development is the key-note of the countries of Asia, even though they have reached varying stages ranging from insufficiently developed countries up to highly developed societies. In general, Asian countries face serious problems created by low levels of national income and consumption, inadequate productivity, underdevelopment of education, high rates of illiteracy, low standards of health and a general apathy of the people who are poorly motivated.

7. These problems are of massive dimensions in a region of large and rapidly increasing populations. The developing countries of Asia have now a population of 935 million which is estimated to increase to 1,370 million by 1980.

8. In the last two decades Asian nations have made progress in coping with these problems, and there are signs of valiant achievements considering the size of the problems. Nevertheless, if we are to eliminate speedily the struggling poverty of the people of the region progress should be more rapid.

9. Experience has shown that the human factor is crucial in development. Unless the quality of its productivity is increased, all the material investment that may be made will prove ineffective. We have to transform the people of Asia if we are to transform Asia. We have to make our working force more productive since large sections of the population are illiterate, disease ridden, ignorant and of poor motivation.

10. What is needed now is a gigantic effort to transform the peoples of Asia so that they can effectively contribute to the development of their countries. This is an educational effort of immense dimensions which can be tackled only by a new technology in education and the employment of all available resources.

11. It is, however, felt that generally in most of the developing countries of Asia, the planning authorities responsible for social development schemes do not sufficiently see the enormous potentialities of both radio and television to aid economic, social and educational development. Insufficient priority is given to broadcasting in any national plan. There is also inadequate provision made for suitable machinery to co-ordinate the needs of broadcasting with such plans and to make it more effective.

12. It is recognized that the rôle of broadcasting is only an auxiliary in social development, though of great significance. For the success of any social and economic development scheme, communication between the planners, their agents and the people is of the utmost importance. In this necessary communication, broadcasting can be of immense value. It has the ability to reach vast numbers with a powerful impact; it can give access to regions which are otherwise difficult to reach; it can help to overcome shortage of trained personnel; it can operate in conditions of urgency whenever there is need for a change in traditional outlooks and acceptance of new values and attitudes, and for the acquisition of new knowledge and skills.

13. Properly utilized, broadcasting can lead the people to the recognition of the need for change, can arouse their interest in new ideas, and can help to apply those ideas within the context of any particular group.

14. It can achieve these results in all fields of social and economic activity, in rural and agricultural development, in the establishment of an industrial society, in vocational education, women's education, youth training, general adult education, or informal education.

15. The use of radio and television for formal education requires that they are integrated at all the three levels of planning, production and reception, with the general educational structure of the society in which they operate. It may, however, be necessary to restructure educational systems to get the maximum benefit from these media - to provide specialized instruction, to overcome shortage of teachers, to obtain access to remote areas, to give refresher and in-service training to teachers and so on.

16. In the light of the above remarks, the meeting, having taken into consideration the views of participants and specialists in the fields of broadcasting and education invited from different parts of the region, has arrived at the following three principles:

17. First:

That broadcasting is basically a public trust and responsibility placed on all those who organize, operate and control radio and television.

Second:
That in order to enable radio and television to discharge this fundamental obligation in a truly effective and purposeful manner, it is imperative that broadcasting must be recognized and supported by all governmental as well as non-governmental agencies as a vital and indispensable force in the furtherance of the basic objectives of all Asian nations to establish and sustain a modern, progressive society.

Third:
That broadcasting has great potentialities to transmit knowledge, to disseminate information and to influence public opinion in positive and constructive directions; and that these potentialities should be applied to create the social climate and to communicate the skills required for building this modern society.

I. BROADCASTING AND NATIONAL DEVELOPMENT

18. If the social and economic development plans of various countries in Asia are to bear fruit it should be recognized that the broadcast media of both radio and television have a significant contribution to make. They should be considered part of the country's basic facilities, like harbours, roads, electricity, for the provision of which funds are invested not merely for immediate and identifiable results, but which are rightly believed to promote a long-term increase in national production. As with investment in education, broadcasting resources should be expected to yield results in the form of an informed, motivated and skilled people, leading to the increased availability of productive manpower whether in urban or rural areas.

19. It is recommended therefore, that even at the planning level for any project or an entire development plan, consideration should be given by the planners to the contribution and needs of broadcasting so that it may play its part in the promotion of the plan by creating the psychological and intellectual conditions that are so necessary for the training and mobilization of human resources in the country. Otherwise for sheer lack of communication and the resultant inability to obtain the co-operation of the people the success of the plan may be jeopardized.

20. As far as human resources are concerned the problem in most countries of Asia is mainly one of rural awakening and motivation to infuse a new confidence and energy; here experience has already proved that radio and television are powerful forces of transformation. Facilities have to be provided, with a high degree of priority, including the provision of transmitters of sufficient power, appropriate programmes, and an adequate number of low-cost receivers to effectively reach the rural people through the media of radio and television.

21. Appropriate programmes are those that will lead to a change in the traditional attitudes of the rural people, make them accept the necessary changes in attitudes, and enable them to acquire the necessary skills that are implied in progress. Moreover as their ability to produce is closely linked with their conditions of health, the status of women, the education of children and other aspects of their social environment, a variety of programmes is necessary and facilities for this should be made available.

22. Evidence of the rural radio forums organized in India and rural teleclubs organized in Japan show that any programme that leads to discussion in organized listening or viewing groups in rural areas is able to instil a sense of participation among the people leading to more fruitful results. But to achieve this there should be an adequate machinery for the organization of such groups, for the training of their leaders from among the rural people themselves, and for fruitful cross-stimulation that will ensue between the broadcaster and listener thanks to the existence of such organized listening or viewing groups. There should also be facilities for the follow-up of particular points by more information and visuals in the form of filmstrips, charts, flannelgraphs and simple reading materials.

23. For rural people particularly, attempts should be made to give a comprehensive service that will stimulate them in all aspects of their life and appeal to them as total personalities rather than merely addressing them e.g. as farm workers, as illiterates, or as people with families which are too large. As they have fewer distractions broadcast programmes will have particularly great effect if well presented. Broadcasts should cover problems of youth and women's problems, weather and market reports that affect their interests, programmes of general educational and informative content, programmes that teach how to utilize enforced seasonal leisure fruitfully, and generally programmes that will make people more aware of their larger national environment so that they are helped to get out of a mood of rural isolation and recognize themselves as participants in the greater adventure of the whole development of the nation and of Asia.

24. Similarly in urban areas programmes should be planned that will appeal to urban workers as individuals who have their own chances to realize their own potentialities by acquiring more knowledge, new skills and constructive attitudes. This will lead to greater efficiency, increased productivity and more harmonious relations with their neighbouring communities, an increase of civic pride, greater cleanliness and on the whole the creation of a better environment for all. Vocational training programmes that will augment their productivity and chances for a better life are specially recommended.

25. Most social and economic development plans in Asia depend a great deal on the co-operation and readiness of their urban population to develop.

Appropriate attitudes and skills for development can be promoted by broadcasting and through the organization of listening clubs and community projects, leading to discussion and action as groups.

26. Any broadcast programme, whether for urban or for rural people, should be presented regularly over a long period. Its usefulness may be gauged by the extent of listener participation, whether in groups or otherwise, and in particular by the degree to which it is accompanied by facilities for feed-back between audience and broadcaster.

27. In the exercise of all these "development" functions, broadcasting can be effective only if listeners/viewers are not looked upon as an amorphous mass, but as specific groups of people, each with its own problems and anxieties, attitudes and mental equipment, habits and potentialities; they have to be approached as specific groups in the manner most appropriate to each of them. It is therefore recommended that in a large country it is necessary to have many low-powered stations particularly in rural areas which can reach the people in their own appropriate ways and adapt programming to local conditions.

28. In the exercise of its multifarious functions in regard to development, a broadcasting organization cannot and should not act in isolation if it wants to be effective. In the formation of listening clubs co-operation has to be sought from community centres and similar organizations. Rural programmes can be produced only in association with agencies responsible for rural development. Programmes for urban workers need the assistance and co-operation of unions. Adult education programmes should seek the co-operation of adult education associations. Youth programmes need the assistance of youth clubs. Group discussion can be followed in association with newspapers. There should be a total mobilization of all the resources of a country including the media of communication for development to be speedy and fruitful.

II. BROADCASTING AND EDUCATION

29. The use of radio and television as a resource of education requires that they be conceived as an integral part of educational planning and administration at every level. Such integration should reflect itself in the national allocation of financial resources and manpower, as well as in the day-to-day implementation of educational plans.

30. The requisite machinery will vary from country to country, and indeed in some cases the two fields already come under one ministry. Where this is not the case, arrangements should be such as to permit an active and continuous collaboration.

31. Inter-ministerial committees where they do not exist should be established for the implementation of co-ordinated programmes.

32. Within the structure of the Departments of Education, Agriculture, Health and others, broadcasting liaison units should be established in order to facilitate administration and supervision as well as detailed planning and execution of programme activities.

33. Advisory groups should be established at national, regional and sub-regional level as appropriate, consisting of representatives of broadcasting, education, development agencies and other relevant interests.

34. When an educational service is started in any country on radio or television, provision for the purchase of receivers should be included in the plan cost.

35. The financial provision for recurrent expenditure in connexion with educational broadcasting should be adequate not only for the actual broadcasting services but also for the supporting services which are necessary for an effective educational programme, the maintenance of receivers, the printing and distribution of teachers notes, follow-up material, listener research, etc.

FORMAL EDUCATION

36. Considering the immense potential of radio and television in contributing to the solution of the present problems of qualitative improvement and quantitative expansion based on the educational systems in Asia, it is recommended that broadcasting be recognized in national education policies as a teaching resource of great value in the areas of pre-service and in-service education of teachers and supervisors, in school instruction, including vocational and technical education, and in higher education.

37. In the use of these media it is to be borne in mind that they are essential aids to extend the range and effectiveness of the teaching and learning process. The rôle of the teacher remains vital and will continue to be of central importance in preparing pupils for and following up the programmes in the classrooms and adapting them to the pupils' individual needs and aptitudes. But the rôle of broadcasting and the teacher may change depending on the quantity and qualifications of teachers who are available under varying conditions.

Teacher training

38. It is recommended that:

(1) National authorities make provision for radio and television as a means of pre-service and in-service training in the courses offered by teacher-training institutions and to this end:

(a) Equip such institutions and their attached demonstration schools adequately with closed circuit television which permit observation of classroom teaching, criticism of recorded lessons and more effective demonstration lessons, and with facilities for the utilization of school radio and television programmes.

(b) Utilize fully throughout the year the opportunities offered by radio and television, preferably linked closely with correspondence courses and programmed instruction, for the in-service training of teachers at their place of residence or work. Such training should be geared to the level of professional training already received by the teacher. Special attention should be given to the needs of untrained or inadequately trained teachers.

(c) Assure that teachers have adequate means of reception.

(d) In view of the heavy additional load involved in adequately preparing for and utilizing teacher-training broadcasts, provide for appropriate incentives for teachers following such programmes.

(e) Utilize broadcasting media for the guidance of teachers by supervisors, and the discussions by teachers on the air or in a gathering of formal or informal kind, of issues of concern to the performance of their work.

(2) Teacher-training institutions give courses in utilization techniques for radio and television and to this end:

(a) Provide as an essential part of the theoretical and practical programme of teacher education courses in teacher-training institutions on the rôle of broadcasting in education and the methods and techniques of utilization. This involves, as a prerequisite, the training of teacher educators in broadcasting techniques including programming, utilization and audience research.

(b) Provide opportunities for teachers to gain experience in utilization and to include tests on their ability to do so in final examinations.

(c) Provide manuals on the utilization of radio and television for use in teacher-training institutions.

(d) Provide teachers in service with manuals and instruction sheets for individual broadcasts in order to assist them in the preparation and follow-up of individual programmes.

(3) Carefully evaluated pilot projects be carried out in Asian countries for the use of radio and television for in-service training of teachers under typical conditions of poor ground communications, insufficient qualifications of teaching staff and the need to introduce new content and methods into the curriculum; and that Unesco be called upon to cooperate in such projects to assure their assessment and wide dissemination of the results.

School instruction

39. With a view to realizing the full potentiality of the media as educational tools, as well as helping teachers with inadequate qualification or who are handicapped by lack of up-to-date educational materials, educational broadcasts, both of the direct instructional and the enrichment type, should be conceived as an integral and essential part of the school time-table and be regularly and systematically produced and offered to this end.

40. Broadcast lessons should be closely integrated with the curriculum so as to be of direct instructional value in classrooms, repeat lessons being given as often as may be necessary. In recommending this course, it is stressed that due account must be taken of varying national and local situations, as well as of the freedom, for example, of a given headmaster, based on his intimate knowledge of his staff, pupils and educational facilities, to modify the use to be made of such programmes.

41. The rôle of broadcasting, particularly television, is of special importance in the teaching of the sciences and modern languages in the context of the remarkable recent developments in the teaching and learning of these subjects and the strategic place they have in the qualitative improvement of education in Asia. It is recommended that national education and broadcasting organizations devote resources to research and experimentatation into the application of broadcasting allied to the new approach in the teaching of these key subjects. It is recommended further that the countries in the region exchange information about the results of such programmes.

42. Those in charge of the production of educational programmes should also prepare and make available to schools, accompanying literature, supplementary materials, teachers manuals and guides for the effective use of instructional broadcast lessons.

43. Procedures for the evaluation of pupil progress and achievement should be appropriately reformed to take account of particular contributions of the new media to the learning process.

44. In view of the foreseeable greatly increased uses of the new media in education, it is strongly recommended that school-building designers and architects make due provision for their special needs with particular reference not only to physical details, such as seating arrangements, electricity ducts and outlets, darkening devices, sound installations and flexible partitions but also to the overall requirements of the changed teaching/learning situation that may be expected as a consequence of the introduction of these techniques.

45. In view of the urgent need in Asian countries for expanding and improving vocational and technical education, including agricultural education, and the existing inadequacies of instructional materials and staff, it is recommended that special attention be given to using the resources of broadcasting, particularly television in combination with correspondence teaching, organized group reception and local supervision in vocational and technical education. Educational institutions should be considerably strengthened in terms of equipment and staff to make maximum use of these new techniques for theoretical and practical work in vocational and technical education.

Vocational guidance

46. Considering the growing need for vocational orientation, particularly at the second and third levels, it is recommended that radio and television should carry special programmes developed in collaboration with educational counselling specialists

and labour ministries for career information and vocational guidance.

Higher education

47. There is a rapidly increasing demand for higher education in Asian countries and consequent pressure on the relatively limited facilities available, together with the need to widen access to higher education for young people who have the ability to profit by it but do not have the means or opportunities to attend regular institutions. It is therefore recommended that university-type instructional broadcasts be established. With this object in view, carefully designed pilot projects should be started by educational authorities, in collaboration with broadcasting organizations, for instruction through mass media, in combination with other new techniques of teaching such as programmed instruction and correspondence courses. The results of the pilot projects should be carefully assessed to form the basis for further expansion of this alternative way to higher education.

48. To ensure continuous improvement and refinement in the use of mass media for educational purposes, it is recommended that a systematic programme of research, including action research, in all aspects of the application of mass media to education should be undertaken by universities, education ministries and broadcasting organizations. The programme of research should cover areas such as development of suitable tests, assessment of the relative efficacy of different techniques of programming and teaching through mass media, cost factors, problems of the integration of the curriculum in the broadcasting techniques and its adaptation to the varying levels of audience ability and aptitude.

OUT-OF-SCHOOL EDUCATION

49. With the tremendous advances in human knowledge and the rapidly changing conditions of modern life, it has become important for every person in society to constantly strive to keep pace with these advances in knowledge and to pursue a life-long education. This is especially true of the large number of underprivileged people in Asia. They have to learn much more and much faster if they are to reach a dignified place for themselves in modern society.

50. For this continuous process of life-long education, radio and television are valuable tools in the hands of educators and development planners. Radio is the only channel available to communicate with people scattered in far-flung communities with their large illiterate populations, who should not be made to feel isolated from the general life of society. The underprivileged should be made to feel that they too belong to a changing progressive community. To aid in the advancement of this objective, certain recommendations are made.

Literacy

51. Illiteracy is a scourge in most Asian countries and its eradication is a necessary condition for national progress. Although radio may not be the direct means for the teaching of literacy, there are important advantages to be achieved by radio in this field. It should be extensively used to mobilize public opinion so that it may show energy in eradicating illiteracy; to attract voluntary workers for the field, and to motivate individual and group learning.

52. Television, however, has endless possibilities even in the direct teaching of literacy. These should be fully utilized wherever possible. The literacy problem may also best be approached by starting with functional literacy where the content of the lessons are related to the immediate needs of the audience in their working environment and the needs for the development of that environment.

53. To be effective, the radio or television lessons should be reinforced with suitable printed reading material and with skilful use of group listening or viewing techniques.

Adult education

54. For imparting knowledge as distinct from skills, radio and television are convenient and powerful tools. They should be used to enable the farmer or industrial worker to cope better with their work. Carefully devised and presented programmes on history, geography and the humanities can increase their awareness, and impart an interest to their [illegible]. Civic education programmes can increase an understanding of the political, government institutions surrounding them and make them recognize their own role in shaping and influencing them so that they derive due benefit from them and acquire a new confidence in themselves. Popular programmes on science and current affairs with news reports and documentaries can arouse intellectual curiosity which is necessary before new ideas are absorbed. In multi-racial or multilingual societies radio and television can make positive contributions in developing a feeling of unity and a common aspiration leading to a more coherent and integrated society.

55. General radio and television programmes like classical music, drama and other spoken-word broadcasting have a potential educational significance and, as such, care should be exercised to see that the cultural values of the nations are not jeopardized by cheapness or vulgarization. Even popular entertainment programmes should be purposeful leading to enrichment and stimulation of the personality rather than serving as mere escape or sedative.

Education of women

56. As rural women have an important place in rural society and its economy, programmes on

health, hygiene, family planning, child welfare etc., should be specially devised for their benefit. Broadcasting, which is the only medium of communication to reach the intimacy of the home in urban areas, can also play a significant part in making women take their full share in community and national activity, as well as making them better fitted to fill their rôles of motherhood and homemakers.

57. Radio and television programmes for women should aim at three principal objectives:

(a) To improve their home-life and increase their happiness and that of their families.
(b) To provide them with ample opportunities to acquire knowledge and information about local, national and international events and take their due place in community life.
(c) To serve as a vehicle of entertainment and thus relieve the monotony and tedium of their comparatively secluded life.

58. While listening and viewing in the privacy of their homes has its own importance for women, group listening provides an additional and worthwhile source of effective utilization of programmes. Broadcasts directed to groups of listeners and viewers often lead to a useful sharing of experiences and views which, in turn, lead to construction action in various directions.

59. It is important to give women a sense of participation in what they hear and view. This can be done by giving them opportunities to take an actual part in programmes as contributors of scripts or as participants.

Programmes for youth

60. Rural youth must be mobilized not only for increased agricultural production but their energies must be channelled into other productive activities like adult literacy, social education and community welfare. Out-of-school programmes have a special significance for this segment as most of them would have discontinued formal schooling. Vocational guidance for them would be invaluable.

61. In every city there are large numbers of young people who are at that stage in life when, not having yet assumed a definite place in society, they remain unorganized and undirected with no useful avenue of expression for their energies. Moreover, the bulk of urban labour in our cities, both skilled and unskilled, has migrated from the villages. They have problems of adjustment in a new, often bewildering, environment. They have had little or no formal education and in the process of adjusting their traditional concepts and values to the needs of urban life, they need help. The planning of a broadcast service to these people has to be correlated with other welfare activities, and with vocational education programmes like the workers education scheme and youth welfare work in many countries. Here again, group listening and viewing could be profitably utilized for motivation and action. Television, where available, should also be used for improving the skills of such people.

62. In the preparation of such programmes the producer has to remember the necessity for "education" not to sit heavy on his audience. Most of the people who fall in this out-of-school group lead hard lives and belong to the dispirited sections of Asian peoples. To attract them and then stimulate them by programmes is a difficult enough task needing professional skill of a high order and patience on the part of broadcasters before they can hope to have a positive educational impact. Entertainment is a vital need of the audience and should be an integral part of any educational effort. In out-of-school education, drama and music can be among the most effective tools of popular enlightenment.

III. STATUS AND ORGANIZATION OF BROADCASTING

63. As broadcasting is an essential public service, whatever the form of ownership, management and control, it should be operated in the highest interests of society and for the benefit of the people. While serving as a medium of information and also of entertainment, its essential rôle in national development and public and social education should be recognized and fully utilized. Privately owned commercial stations as well as public systems should be operated within national programme policies and devote part of their air time at appropriate periods, without charge, for public service or educational programmes.

64. In view of the public nature of broadcasting its profound social impact and the limited number of available frequencies, its regulation in the public interest is both justified and necessary. The nature of the regulation will vary according to the governmental system of the State and the type of broadcasting system, but its objectives should be.

(a) To arrange the orderly assignment of frequencies to avoid technical interference.
(b) To ensure that the number of stations permitted to operate is sufficient to meet the public needs, but not so numerous that adequate standards cannot be maintained by all.
(c) To lay down minimum technical standards for all broadcast transmissions.
(d) To enunciate and enforce broadcasting programme standards, covering such questions as good taste and decency, regard for the special needs of children, the preservation and promotion of national culture and artistic traditions, respect for social and religious institutions, for different racial groups, and for the ideals of peace and international understanding.
(e) To determine standards, where appropriate, for the presentation and placement of advertising matter, including the maximum commerical content of programmes, the length of commercials, the number of consecutive commercials, etc.

Economic considerations

65. While recognizing that educational radio and television services will be developed according to a phased programme, it is recommended that they be expanded as quickly as possible to ensure their economical use and that maximum advantage is taken of mass media potential.

66. When educational broadcasting systems are being established, basic planning should include the extension of the service to the rural areas where the needs are greatest and facilities the poorest. The provision of receivers for group viewing should be included in the initial planned costs of an educational service.

Transmission facilities

67. Considering the great contribution that radio and television can make to national development, it is urged that technical facilities be provided for nation-wide broadcast coverage in conjunction with other telecommunication services.

68. In view of the fact that a full broadcast coverage in most countries requires a number of transmitters and a national network for relaying programmes from central studios, it is recommended that governments ensure good co-ordination between the broadcasting service and the telecommunication service, so that while the latter is building the national telecommunication network, all the present and future needs of broadcasting be taken into account and incorporated in the national plan. In this connexion, all those governments which have no national network are urged to seek the assistance of the ITU in surveying and preparing suitable plans for a national telecommunication network, bearing in mind the importance of this for the establishment of broadcasting services for education and development.

69. As the problem of finding a sufficient number of frequencies in the high frequency bands (5950 kcs to 26100 kcs) is very difficult to solve through regional co-ordination, it is suggested that the governments of countries in the region consider making a greater use of FM sound broadcasting.

70. The development of satellite communication is considered very important for global communication and in the not too distant future Asia should be ready to share in its advantages, particularly for educational and development purposes. The utilization of "distribution satellites" for the national relay of radio and television services in some of the larger countries of Asia should be investigated as this may make it possible to introduce a nation-wide coverage on an economical basis. Full support is given to the plans of Unesco to sponsor a practical feasibility study concerning the use of space communication, to meet the needs of developing countries, especially in the fields of education.

Planning and production of programmes

71. Particularly in developing countries, the opportunities for using the broadcast media purposefully for education and development should be borne in mind in all fields of programming. Information programmes may have a profound influence on attitudes and understanding of national problems, and help mobilize public opinion and co-operation in the tasks of community and national development. Entertainment programmes should, to the maximum extent, conform with national cultural traditions, and be used as a vehicle for conveying ideas and information relevant to the needs and aspirations of the people.

Co-operation with development agencies

72. As broadcasting serves the interests of many government departments and agencies in such fields as education, community development, health and agriculture, the responsibility for providing educational and development programmes and of ensuring adequate reception facilities should be shared between the broadcasting organization and the various departments and agencies. The exact manner of sharing administrative and financial responsibilities will depend upon the nature of the broadcasting organization and its relation to government of individual countries. If broadcasting is a government activity, the government should be urged to take note of this multilateral function of broadcasting and make separate provision for such educational and development programmes. If broadcasting is not part of governmental activity, some arrangement should be entered into by government with the broadcasting organization to ensure that programmes for education and development are produced and transmitted.

IV. THE AUDIENCE

Reception

73. (a) Radio and television receivers, both for individual and community use, should be regarded as essential and not luxury items, and as indispensable to the development and full utilization of broadcasting. Encouragement should be given for local production or assembly, and tariff barriers should be removed to enable importation without duty of component parts or raw materials, or in the absence of local manufacture, of an adequate number of sets for sale at the lowest possible prices.

(b) It is recommended that Unesco explore the possibility of drafting an international agreement for the importation without tax or duty of radio and television receivers or components for receivers used for educational purposes.

(c) As the production of receivers at low cost necessitates large scale output, co-operation between countries in the region is desirable, and it is strongly recommended that governments seek the assistance of ECAFE to explore the possibilities of establishing assembly plants, in terms of the recommendations of the joint Unesco/ECAFE/ITU survey mission to Asia for the production and marketing of low cost receivers.

(d) Attention must be given to providing technical services for the repair and maintenance of receivers, both group and individual, particularly in rural areas.

Group reception in schools and out of school

74. Close and continuing contact is essential between broadcasting organizations and their audiences, to ensure effective programming and maximum utilization of educational broadcasts. Intensive organization and constant supervision of viewing groups and the training of group leaders should be given the same attention as the production of programmes.

75. The provision in advance of schedules and guides and explanatory notes is an integral part of the whole system of educational broadcasts; they should be produced and distributed systematically by the responsible authorities to permit teachers and group leaders to prepare for and follow up programmes.

76. A routine procedure should be established for the regular reporting back to the broadcasting station by group leaders, teachers and others of listener reactions, comments and questions, for answer in subsequent programmes and general guidance in programme planning.

Audience research

77. As the effectiveness of broadcasting depends on the understanding and response of the audience, it is essential that research be undertaken into the number and characteristics of their listeners or viewers, their listening habits and circumstances, their programme interests and preferences, their comprehension of broadcast information and their attitudes and reactions. Such research should be carried out by broadcasting organizations themselves, wherever possible, to guide them in programme planning, time and production, but it may also be commissioned or undertaken independently through academic institutions or survey agencies.

78. The audience research should be on a regular or periodic basis to ensure a continuing flow of information to the broadcasting organization which should analyse it and disseminate the findings to staff and all others concerned with the production of programmes and the utilization of the media.

79. Audience reaction may be assessed by simple methods such as listener panels or direct questioning, but to be fully authentic and reliable, should be designed and carried out in accordance with scientific research techniques and methodology. Because of the characteristics of most audiences, it is recommended that questions be unstructured in order to elicit valid responses. The pre-testing of broadcast messages to be used in campaigns for agricultural improvement or other development objectives should be undertaken whenever possible to ensure effectiveness and avoid misunderstanding.

Evaluation of projects

80. School broadcasts, adult education programmes, agricultural transmissions, farm forums, as well as other projects and campaigns involving broadcasting should be systematically evaluated to determine their effectiveness, and the findings should be used to overcome weaknesses, exploit strengths and improve standards of performance.

V. TRAINING

National training

81. A key to the effective use of broadcasting for education and development is the training of station staff at all levels and of those who will utilize the programmes. The urgent needs of all countries in the region for intensive training is recognized, and it is recommended that training policies and programmes should include the following:

(a) General training of professional broadcasting staff in all departments - production, technical, news, administration.

(b) For some personnel with executive potential a broad based training at university level, in the social sciences and in mass communication and related subjects.

(c) Special training for broadcasters in the production of programmes for education and development.

(d) Training of selected educators, extension officers and other specialists in the organization and production of programmes.

(e) Training of all personnel involved in programme production, in the process of effective communication, the psychology of broadcasting and the sociological background of their audiences.

82. It is recommended that basic training should be carried out at the national level, within a special training institute or be organized systematically on an in-service basis. Every broadcasting organization should appoint an officer specifically responsible for staff training. Fellowships for study abroad in methods of training should be sought for such personnel. Staff should be recruited above the minimum quantity required for operations, to permit the release of personnel for training on a rotational basis.

83. Expert assistance should be requested, when appropriate from Unesco or other sources to conduct short-term courses at the national level, or to train counterparts for continuing training responsibilities.

84. It is recognized, nevertheless, that training on the national level is inadequate in most countries of the region, particularly as far as advanced qualifications are concerned. Training in developed countries for senior staff broadens outlook and enlarges experience, and fellowships for this purpose should be provided.

85. The meeting feels, however, that there is also need for advanced training facilities within the region, and therefore adopted the following recommendations.

Regional training

86. Considering the urgent needs of the region and the great difficulties of providing at the national level adequate training in broadcasting for all categories and grades of personnel, the meeting recommends that serious consideration be given to the establishment of a regional institute for advanced training, firmly based on a training institution which first of all meets the national needs of an Asian country.

87. The institute would conduct courses and seminars, at an advanced level, in both technical and programme aspects of radio and television, particularly as they are related to broadcasting's contribution to education and economic development in Asia. Training would include instruction and practice in programme planning, script-writing and production, the making and editing of films for television, and the effective utilization of broadcasting for development. The institute would cater for both the staff of broadcasting organizations and educators and specialists concerned with programme production. Technical training would be of an advanced character for staff with professional qualifications, or in the case of television at senior technician level. Particular attention would be paid to the training of key personnel in all fields, who may themselves undertake training responsibilities in their own countries.

88. Associated with the institute should be a pilot project and other field activities, which would involve trainees in the practical application of broadcasting to development tasks, and at the same time serve the region by producing films and programmes, and undertaking experimentation and research in its qualitative as well as its quantitative aspects. One of the functions of the institute would be to provide a documentation service and to publish manuals and reports, and to act as a clearing-house for research information in the region. It should also envisage sending experts to countries in the region to help with national training problems.

89. The staff of the institute should be international in character, comprising the best qualified people available in Asia or, if necessary, recruited from outside Asia.

90. In order to ensure the viability of the institute, it was considered essential that it should have a national training institution as its nucleus, and that it should be located in a country, which would make a material contribution towards the costs of its establishment and continuing operation. In this connexion, the meeting noted with great appreciation the generous offers from the Governments of Iran and Malaysia to be the host country for a regional training institute for broadcasting.

91. The meeting recommended that a study should be made of the training needs of the region in relation to existing or planned training facilities, and the feasibility of establishing and financing a regional institute, bearing in mind the contribution offered by the host country, the possibilities of firm commitments for financial support from the governments of participating countries in the region, and of assistance from international or bilateral sources or some other aid-granting agency.

92. Noting the views of the Asian Broadcasting Union and the possibility of other initiatives in the region, the meeting proposed the appointment by Unesco with the co-operation of the ITU of a survey team consisting of specialists in broadcasting, engineering and programme production with particular experience in the training of personnel, to make a detailed study of the problem, including:

(a) Training needs for various categories of personnel.
(b) Existing national training facilities.
(c) Methods and level of recruitment and the qualifications of broadcasting personnel.
(d) Future trends and needs, particularly in view of the development of television.
(e) Action required to provide adequate training at both national and regional levels.
(f) The value, function, financial feasibility and location of a regional centre of the type proposed and the contribution it could make to the development of broadcasting in Asia and its more effective use for education and social and economic advancement.

93. Notwithstanding these long-term studies concerning training facilities within the region, the meeting requests Unesco and other competent organizations to hold training courses in the production and utilization of radio and television programmes which serve specific educational purposes, and to invite to such courses, broadcasters, educators and specialists of development agencies from the countries of the region.

Training in the utilization of broadcasts

94. Teachers and monitors require training in utilization of broadcasts in the classroom, and adult education leaders in methods of conducting listening groups and stimulating discussion and action. In the case of teachers this might be given initially as part of formal training at the teachers' college. Institutes conducting training courses for social workers might also undertake training of monitors, group leaders, etc.

95. Short courses on utilization should include some studio experience to provide familiarity with

production techniques and a sense of participation in the programmes.

96. It was recommended that a written guide or manual be prepared for use by utilizers of educational programmes.

VI. INTERNATIONAL CO-OPERATION

Programme exchange

97. In order to promote greater mutual knowledge and appreciation among the countries of Asia, thus assisting them in their national efforts and fostering a spirit of international understanding and co-operation, the meeting recommends:

(a) That countries exchange radio and television programmes on development projects and educational achievements in order to enhance public awareness and morale, and to stimulate efforts at emulating the accomplishments of other countries in the region;

(b) That countries co-operate in the production of documentary reports on development projects in the region, through the United Nations and its agencies or directly among each other;

(c) That broadcasting organizations attach importance to facilitating programme exchange, establishing wherever possible a transcription service and an exchange unit responsible for the acquisition and supply of programmes;

(d) That greater efforts be made to establish multilateral arrangements through the Asian Broadcasting Union and other appropriate bodies, but that at the same time bilateral contacts be fully explored for the exchange of programmes which are well adapted to national programming;

(e) That producers of programmes be exchanged among organizations responsible for the production of programmes, and that visiting producers from other Asian countries be given all required production facilities in order to stimulate the presentation of programmes in which Asian countries report on each other's life and achievements.

Documentation

98. Stressing the importance of an exchange of ideas and experiences among those engaged in the application of radio and television to education and development, the meeting recommends:

(a) That printed information on national experiences be made available to professional broadcasting and educational publications of international circulation, and that such publications enlarge the coverage they give to programming in the fields of education and development;

(b) That countries exchange the literature accompanying educational programmes as well as guidelines for the utilization of such programmes;

(c) That Unesco, as well as other international or regional organizations, disseminate as widely as possible reports and documentation on the utilization and significance of broadcasting in the educational and development process.

(d) That existing or new documentation services and centres supply information for use in educational programmes, not only in written but also in visual forms. Unesco was requested to transmit to those concerned detailed suggestions in this respect which were made at the meeting.

International contact with audience groups

99. It is recommended that receiving groups be encouraged to establish contact across national borders through the exchange of gifts and reports, and that support through Unesco Gift Coupons be requested for projects of outstanding significance, appeal and urgency.

Placement of the topic of broadcasting on the agenda of meetings and training courses; Co-operation of Unesco centres

100. Recognizing that the subject of educational broadcasting is not only of concern to those directly responsible for it, the meeting urges that the contribution of radio and television to education, as well as to social and economic development, be placed on the agenda of national and international meetings and included in training courses concerned with overall national and educational planning, the promotion of various aspects of education, as well as with agriculture, industrialization, health and other aspects of social and economic development. The co-operation of the various Unesco centres serving education in Asia is also requested in the implementation of the recommendations of the meeting.

Programmes about the United Nations and Unesco

101. Recognizing the rôle of the United Nations and its Specialized Agencies in the pursuit of the goals of this meeting, and the importance of creating understanding and support for their work, particularly among young people, the meeting calls upon broadcasting and educational organizations to devote special programmes to the Twentieth anniversary of Unesco during the winter 1966-1967, and to include regularly in their school broadcasts programmes about the United Nations.

Assistance from Unesco

102. Recognizing the importance of basing the application of broadcasting to education and development on sound planning and proper training of staff,

the meeting recommends to Information Ministries, broadcasting organizations and educational broadcasting administrations that they request from Unesco, through the appropriate channels of their government, among other assistance:

Short-term advisory or survey missions on the development of broadcasting and its use for purposes of education and development;
Long-term expert missions in these fields;
Fellowships for advanced study and training in other countries.

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